



Serial: NPD-NRC-2011-032
April 15, 2011

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

**SHEARON HARRIS NUCLEAR POWER PLANT, UNITS 2 AND 3
DOCKET NOS. 52-022 AND 52-023
ROADMAP OF CHANGES IN COMBINED LICENSE APPLICATION, REVISION 3**

Reference: Letter from John Elnitsky (PEC) to U.S. Nuclear Regulatory Commission, dated April 14, 2011, "Shearon Harris Nuclear Power Plant Units 2 and 3 Submittal of COL Application, Revision 3", Serial: NPD-NRC-2011-028

Ladies and Gentlemen:

The purpose of this letter is to provide information supporting the recent Progress Energy revision of the Combined License Application (COLA) for Shearon Harris Nuclear Power Plant, Units 2 and 3 (see referenced letter). Attached is a "roadmap" of the changes included in the April 14, 2011 submittal along with an enclosure providing an explanation of the information contained in the roadmap.

If you have any questions, or need additional information, please contact me at (919) 546-6992.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robert Kitchen'.

Robert Kitchen
Manager – Nuclear Plant Licensing
New Generation Programs & Projects

Enclosure/Attachment

cc : U.S. NRC Region II, Regional Administrator
U.S. NRC Resident Inspector, SNHPP Unit 1 (w/o Attachment 1)
Mr. Brian Hughes, U.S. NRC Project Manager
Mr. Don Palmrose, U. S. NRC Environmental Project Manager

D084
NRO

bc : John Elnitsky, VP- New Generation Programs & Projects (w/o Enclosure/Attachment)
Robert Kitchen, Manager-Nuclear Plant Licensing (w/o Enclosure/Attachment)
Tillie Wilkins, NGPP-Licensing (w/o Enclosure/Attachment)
John O'Neill, Jr. (Pillsbury Winthrop Shaw Pittman, LLP) (w/o Enclosure/Attachment)
A. K. Singh (Sargent & Lundy, LLC) (w/o Enclosure/Attachment)
Cynthia Malecki (Sargent & Lundy, LLC) (w/o Enclosure/Attachment)
Lorin Young (CH2M HILL) (w/o Enclosure/Attachment)
John Archer (WorleyParsons) (w/o Enclosure/Attachment)

NGPP Document Control Inbox (Records: Correspondence)
File: NGPP (Dana Rose)

**Shearon Harris Nuclear Power Plant Units 2 and 3
Roadmap of Changes in Combined License Application Revision 3
Explanation by Column in Attachment 1**

Column	Explanation
Change ID#	Unique identifier for tracking purposes
COLA	Identifies the change as STD (standard) or HAR specific
COLA Part	Part 1 (PT01) through Part 11 (PT11)
Chapter	FSAR or ER Chapter
Section	Section/Subsection of the Chapter or Part
Basis for Change	The source of the change
Change Summary	Short description of the change

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA Part	Chapter	Section	Basis for Change	Change Summary
PT01					
HAR-001	HAR	PT01	01.01.04	Update list of Directors and Principal Officers to match current organization	Update the list of Directors and Addresses to ADD the following: Melquiades R. "Mel" Martinez Orlando, FL Update the list of Directors and Addresses to DELETE the duplicate entry for :John D. Baker II Jacksonville, FL on page 1-4 Make the following updates to the list of Principal Officers: - change Jeffrey Lyash from "Executive Vice President - Corporate Development Group" to "Executive Vice President - Energy Supply" - change "Vincent Dolan" to "Vincent M. Dolan" - change the information for John McArthur to read as follows: "John R. McArthur Executive Vice President Administration and Corporate Relations Progress Energy Service Company General Counsel and Corporate Secretary" - change "Paula Sims Senior Vice President - Power Operations Progress Energy Carolinas and Progress Energy Florida" to "Paula J. Sims Senior Vice President - Corporate Development & Improvement Progress Energy Carolinas, Progress Energy Florida, Progress Energy Service Company" - delete all information for Frank Schiller
PT02					
Chapter 1					
8221	STD	PT02	FSAR01	1.01	VEGP-VOL-CH01 IBR of PI & SGI response item 1 SNC Ltr ND-10-2207 1. COLA Part 2, FSAR Chapter 1, Section 1.1, Introduction, will be revised to read: Unless otherwise specified, reference to the DCD refers to Tier 2 information and includes the sensitive unclassified non-safeguards information (including proprietary information), and safeguards information referenced in the AP1000 DCD. Such DCD information is included in this combined license application in the same manner as it is included in the AP1000 DCD, i.e., references in the DCD are included as references in the FSAR, and material incorporated by reference into the DCD is incorporated by reference into the FSAR. Appropriate agreements are in place to provide access to the withheld sensitive unclassified non-safeguards information (including proprietary information), and safeguards information referenced in the AP1000 DCD.
8348	STD	PT02	FSAR01	1.01	DCD Rev 18 COLA Part 2, FSAR Chapter 1, Section 1.1, Introduction, will be revised from: Throughout this FSAR, the "referenced DCD" is the AP1000 DCD submitted by Westinghouse as Revision 17 including any supplemental material as identified in Table 1.6-201. To read: Throughout this FSAR, the "referenced DCD" is the AP1000 DCD submitted by Westinghouse as Revision 18 including any supplemental material as identified in Table 1.6-201.
HAR-090	HAR	PT02	FSAR01	01.01.05	Schedule Update Revise COLA Part 2, FSAR Chapter 1, Section 1.1.5 as follows: The estimated completion and commercial operation dates for HAR 2 and 3 are: HAR 2 Construction Completion/Fuel Load 2nd Quarter 2025 (or later) Commercial Operation 1st Quarter 2026 (or later) HAR 3 Construction Completion/Fuel Load 4th Quarter 2026 (or later) Commercial Operation 3rd Quarter 2027 (or later) The dates assume a COL is issued in 2014. A site-specific construction plan and startup schedule will be provided to the NRC after issuance of the COL.
8349	STD	PT02	FSAR01	01.06.T / T1.6-201	DCD Rev 18 COLA Part 2, FSAR Chapter 1, Section 1.6, Table 1.6-201, will be revised from: Westinghouse/APP-GW-GL-700 AP1000 Design Control Document 17 All September 2008 ML083230868 To read: Westinghouse/APP-GW-GL-700 AP1000 Design Control Document 18 All December 2010 ML103480572

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
4094	STD	PT02	FSAR01	01.06.T/T1.6-201	COL-SER-OI-Ch 17 response to OI 17.05-009 VR2 item 1 (SNC Ltr ND-10-0702)	COLA Part 2, FSAR Chapter 1, Section 1.6, Table 1.6-201 will be revised to include a new item as IBR, and to add a bottom line to separate the Notes, to read: QAPD Progress Energy New Nuclear Plant Development Quality Assurance Program Description Topical Report 5 17.5 December 2010 ML# TBD
7017	STD	PT02	FSAR01	01.06.T/T1.6-201	VEGP-VOL-Ch13 response to STD 13.03-01 item 1 SNC Ltr ND-10-1036	Revise COLA Part 2, FSAR Chapter 1, Section 1.6, Table 1.6-201, to include a new item as Incorporated by Reference, to read: April 2011 TBD ML# Emergency Plan HAR 2 and 3 Emergency Plan 3 13.3
HAR-084	STD	PT02	FSAR01	01.06.T/T1.6-201	VEGP-VOL-Ch13 response to STD 13.06-01 item 1 SNC Ltr ND-10-1036	Revise COLA Part 2, FSAR Chapter 1, Section 1.6, Table 1.6-201, to include new line items as Incorporated by Reference (with LMA of HAR SUP 1.6-3), to read: Security Plans Physical Security Plan 1 13.6 May 2009 (b) Cyber Security Cyber Security Plan 2 13.6 April 2010 (b) (b) These documents are withheld from public disclosure
8028	STD	PT02	FSAR01	01.08.T / T1.8-201	VEGP-VOL-CH08 response to STD-VOL-08.03-002 item 3 SNC Ltr ND-10-2005	3. COLA Part 2, FSAR Chapter 1, Table 1.8-201, Summary of FSAR Departures from the DCD, will be revised to add the following: Departure Number Departure Description Summary FSAR Section or Subsection STD DEP 8.3-1 The Class 1E voltage regulating transformers do not have active components to limit current. 8.3.2.2
7019	STD	PT02	FSAR01	01.08.T/T1.8-202 03.09-07	Superseded by COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 1; COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 1 (SNC Ltr ND-10-0585)	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to include the following new item: 3.9-7 As-Designed Piping Analysis 3.9.8.7 3.9.8.7 H
7068	STD	PT02	FSAR01	01.08.T/T1.8-202 03.09-07	DCD Rev 18 COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 1 SNC Letter ND-10-0801	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to include the following new item: 3.9-7 As-Designed Piping Analysis 3.9.8.7 3.9.8.7 H
7518	STD	PT02	FSAR01	01.08.T/T1.8-202 02.05-17	COL VOL 02.05-017 (SNC LTR ND-10-1281)	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to add the following new line item for the "Waterproofing System" to read: 2.5-17 Waterproofing System 2.5.4.6.12 2.5.6.17 A
7723	STD	PT02	FSAR01	01.08.T/T1.8-202 03.06-01	Additional change consistent with Qb 7072DCD Rev 18COL-SER-OI-Ch03 S6 response to OI 03.06-01 (SNC Ltr ND-10-0801)	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, COL Item 3.6-1, will be revised to include the following new FSAR Section reference: 14.3.3.2
7784	STD	PT02	FSAR01	01.08.T/T1.8-202 03.08-05	VEGP-VOL-Ch03 SUP response to STD COL 03.08-005 item 1 SNC Ltr ND-10-1594	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to add new COL item listing to read: 3.8-5 Structures Inspection Program 3.8.6.5 3.8.3.7 A 3.8.4.7 3.8.5.7 3.8.6.5 17.6
7935	STD	PT02	FSAR01	01.08.T / T1.8-202 03.08-06	VEGP-VOL-CH03 Const Procedures response to STD-COL-03.08-006 item 1 SNC Ltr ND-10-1900	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to add new COL item listing to read: 3.8-6 Construction Procedures Program 3.8.6.6 3.8.6.6 H
7704	STD	PT02	FSAR01	01.08.T/T1.8-202 03.09-05	Editorial - Section 14.2.9.2.22 provides additional surge line thermal monitoring information	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, COL Item 3.9-5, Surge line Thermal Monitoring will be revised to add FSAR Section 14.2.9.2.22 to the list of FSAR Sections

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7724	STD	PT02	FSAR01	01.08.T/T1.8-202 03.09-07	Additional change consistent with Qb 7072 DCD Rev 18 COL-SER-OI-Ch03 S6 response to OI 03.06-01 (SNC Ltr ND-10-0801)	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, COL Item 3.9-7, will be revised to include the following new FSAR Section reference: 14.3.3.3
7748 (was 4173)	STD	PT02	FSAR01	01.08.T/T1.8-202 05.02-03	VEGP-RAI-LTR-060 in response to RAI 05.02.05-001 item 1 SNC Ltr ND-10-1423	1. COLA Part 2, FSAR Chapter 1, Table 1.8-202, will be revised to add a new COL information item to read: 5.2-3 Response to Unidentified Reactor Coolant System Leakage Inside Containment 5.2.6.3 5.2.6.3 A 5.2.5.3.5
7801	STD	PT02	FSAR01	01.08.T / T1.8-202 05.03-07	VEGP-VOL-CH05 ISI response to STD COL 05.03-007 item 1 SNC Ltr ND-10-1656	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to add new COL item listing to read: 5.3-7 Quickloc Weld Build-up ISI 5.3.6.6 5.2.4.1 A 5.3.6.6
7263	STD	PT02	FSAR01	01.08.T/T1.8-202 07.01-01	VEGP-VOL-CH07 response to 07.01-001 item 1 SNC Ltr ND-10-1118	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to include the following new line item to address COL Information Item 7.1-1: COL APPLICANT(A) COL SUBJECT DCD FSAR HOLDER(H) ITEM SUBSECTION SECTION(S) OR BOTH (B) 7.1-1 Setpoint Calculations for Protective Functions 7.1.6.1 7.1.6.1 B
4161	STD	PT02	FSAR01	01.08.T/T1.8-202 15.00-01	COL-SER-OI-Ch15 S2 response to SER OI 15.00-001 item 1 SNC Ltr ND-10-1527	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to include a new line item for COL item 15.0-1 as follows: 15.0-1 Documentation of Plant Calorimetric Uncertainty Methodology 15.0.15.1 15.0.15 H
7258	STD	PT02	FSAR01	01.08.T/T1.8-202 07.05-01	SUPERSEDED by VEGP VOL CH07 S1 response to 07.04-001 item 1 SNC Ltr ND-10-1266 VEGP-VOL-CH07 response to 07.04-001 item 1 SNC Ltr ND-10-1118	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to include the following new line item to address COL Information Item 7.5-1: COL APPLICANT(A) COL SUBJECT DCD FSAR HOLDER(H) ITEM SUBSECTION SECTION(S) OR BOTH (B) 7.5-1 Post Accident Monitoring System 7.5.5 7.5.2, A 7.5.3.5, 7.5.5
7542	STD	PT02	FSAR01	01.08.T/T1.8-202 07.05-01	VEGP VOL CH07 S1 response to 07.04-001 item 1 SNC Ltr ND-10-1266	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to include the following new line item to address COL Information Item 7.5-1: COL APPLICANT (A), COL SUBJECT DCD FSAR HOLDER (H) ITEM SUBSECTION SECTION(S) OR BOTH (B) 7.5-1 Post Accident Monitoring 7.5.5 7.5.2, A 7.5.3.5, 7.5.5
7542	STD	PT02	FSAR01	01.08.T/T1.8-202 07.05-01	ERRATA	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, in the FSAR Section Column, delete the commas after 7.5.2 and 7.5.3.5
7725	STD	PT02	FSAR01	01.08.T/T1.8-202 13.06-01	Additional change consistent with Qb 7295DCD Rev 18 Revised response to RAI 14.03.12-01 (SNC Ltr ND-10-0886)	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, COL Item 13.6-1, will be revised to include the following new FSAR Section reference: 14.3.2.3.2
HAR-150	HAR	PT02	FSAR01	01.08.T/T1.8-202 13.06-01	Editorial	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, COL Item 13.6-1, will be revised to change the FSAR Section reference from "13.6" to "13.6.1."

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary										
7711	STD	PT02	FSAR01	01.08.T/T1.8-202 15.00-01	SUPERSEDED by COL-SER-OI-CH15, SNC Ltr ND-10-1527 DCD Rev 18, based on WEC letter DCP/NRC2461 dated 20090506Editorial for consistency with DCD and with FSAR Chapter 15 changes identified in COL-SER-OI-CH15 S1 response to OI 15.00-01 Item 1 SNC Ltr ND-10-1018	1. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, will be revised to switch the DCD and FSAR references for new line item for COL Item 15.0-1 to read as follows: 15.0-1 Documentation of Plant Calorimetric 15.0.15.1 15.0.15 H Uncertainty Methodology										
7726	STD	PT02	FSAR01	01.08.T/T1.8-202 15.00-01	Additional change consistent with Qb 7250DCD Rev 18, based on WEC letter DCP/NRC2461 dated 20090506COL-SER-OI-CH15 S1 response to OI 15.00-01 Item 1 SNC Ltr ND-10-1018	COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-202, COL Item 15.0-1, will be revised to include the following new FSAR Section reference: 15.0.3.2										
HAR-091	HAR	PT02	FSAR01	01.08.T/T1.8-202 18.02-02	Voluntary Response related to Emergency Operations Facility (EOF) Design per NPD-NRC-2010-093 (H-0654)	HAR COLA Part 2, FSAR Chapter 1, Table 1.8-202, COL Item Tabulation, will be revised to add FSAR Section 9.5.2.2.3.1 to COL Item 18.2.2.										
7259	STD	PT02	FSAR01	01.08.T/T1.8-203 07.04	SUPERSEDED by VEGP VOL CH07 S1 response to 07.04-001 item 2 SNC Ltr ND-10-1266 VEGP-VOL-CH07 response to 07.04-001 item 2 SNC Ltr ND-10-1118	2. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-203, will be revised to include the following plant interface item: <table><tr><th>Item No.</th><th>Interface</th><th>Interface Type</th><th>Matching Interface Item</th><th>Section or Subsection(1)</th></tr><tr><td>7.4</td><td>Post Accident Monitoring System</td><td>NNS</td><td>7.5.5</td><td>A</td></tr></table>	Item No.	Interface	Interface Type	Matching Interface Item	Section or Subsection(1)	7.4	Post Accident Monitoring System	NNS	7.5.5	A
Item No.	Interface	Interface Type	Matching Interface Item	Section or Subsection(1)												
7.4	Post Accident Monitoring System	NNS	7.5.5	A												
7543	STD	PT02	FSAR01	01.08.T/T1.8-203 07.04	VEGP-VOL-CH07 response to 07.04-001 item 2 SNC Ltr ND-10-1266	2. COLA Part 2, FSAR Chapter 1, Section 1.8, Table 1.8-203, will be revised to include the following plant interface item: <table><tr><th>Item No.</th><th>Interface</th><th>Interface Type</th><th>Matching Interface Item</th><th>Section or Subsection(1)</th></tr><tr><td>7.4</td><td>Post Accident Monitoring System</td><td>NNS</td><td>Combined License Applicant Coordination</td><td>7.5.5</td></tr></table>	Item No.	Interface	Interface Type	Matching Interface Item	Section or Subsection(1)	7.4	Post Accident Monitoring System	NNS	Combined License Applicant Coordination	7.5.5
Item No.	Interface	Interface Type	Matching Interface Item	Section or Subsection(1)												
7.4	Post Accident Monitoring System	NNS	Combined License Applicant Coordination	7.5.5												
7049	STD	PT02	FSAR01	01.08.T/T1.8-203 09.08	VEGP RAI LTR 050 response to RAI 09.03.03-001 item 1 (SNC Ltr ND-10-0765)	COLA Part 2, FSAR Table 1.8-203, will be revised (following the associated revision to the DCD) to add the following new Item No. 9.8: <table><tr><th>Item No.</th><th>Interface</th><th>Interface Type</th><th>Matching Interface Item</th><th>Section or Subsection⁽¹⁾</th></tr><tr><td>9.8</td><td>Requirements for location and size of waste water retention basins and associated plant outfall</td><td>NNS</td><td>Site implementation</td><td>9.2.9.2.2</td></tr></table>	Item No.	Interface	Interface Type	Matching Interface Item	Section or Subsection ⁽¹⁾	9.8	Requirements for location and size of waste water retention basins and associated plant outfall	NNS	Site implementation	9.2.9.2.2
Item No.	Interface	Interface Type	Matching Interface Item	Section or Subsection ⁽¹⁾												
9.8	Requirements for location and size of waste water retention basins and associated plant outfall	NNS	Site implementation	9.2.9.2.2												
HAR-151	HAR	PT02	FSAR01	01.08.T/T1.8-203 09.08	Editorial clarification	COLA Part 2, FSAR Table 1.8-203, Item 9.8 will be revised to add "(also referred to as settling basin or neutralization basin in the FSAR)" after "waste water retention basins" under the Interface column.										
LNP-391	LNP	PT02	FSAR01	01.08.T/T1.8-203 Note	To match the corresponding note for the R-COLA, Table 1.8-205	COLA Part 2, FSAR Table 1.8-203, add the following sentence as the second sentence for Note a): "Section/Subsection designations are FSAR unless otherwise noted."										
HAR-092	STD	PT02	FSAR01	01.09.T / T1.9-201 Sheet 1	Editorial Correction	Revise Table 1.9-201 Sheet 1 of 1 to Read: Sheet 1 of 18										

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
8440	STD	PT02	FSAR01	01.09.T / T1.9-201 1.011	DCD Rev 18	COLA Part 2, FSAR Chapter 1, Section 1.9, Table 1.9-201, is revised to include Regulatory Guide 1.11 to read: 1.11 Instrument Lines Penetrating the Primary Reactor Containment (Rev. 1, March 2010) DCD discussion only; See DCD Table 1.9-1
8223	STD	PT02	FSAR01	01.09.T / T1.9-201 1.028	VEGP-VOL-CH14 Qualification Req response item 1 SNC Ltr ND-10-2204	1. COLA Part 2, FSAR Chapter 1, Section 1.9, Table 1.9-201, information for Regulatory Guide 1.28, will be revised to add the following additional FSAR section reference: 14.2.2.2
6638	STD	PT02	FSAR01	01.09.T / T1.9-201 1.078	BLN RAI LTR 168 response to RAI 06.04-007 item 1	1. Revise COLA Part 2, Chapter 1, Section 1.9, Table 1.9-201, to include the following additional cross-reference listing in the FSAR Chapter, Section, or Subsection column for Regulatory Guide 1.78: 6.4.3
7785	STD	PT02	FSAR01	01.09.T/T1.9-201 1.160	VEGP-VOL-Ch03 SIP response to STD COL 03.08-005 item 2 SNC Ltr ND-10-1594	2. COLA Part 2, FSAR Chapter 1, Section 1.9, Table 1.9-201, Regulatory Guide 1.160 will be revised to add the following new FSAR Subsection references prior to the existing FSAR Section reference of 17.6 (NEI 07-02A): 3.8.3.7 3.8.4.7 3.8.5.7
7185	STD	PT02	FSAR01	01.09.T/T1.9-201 1.192	COL-SER-OI-Ch03 S7 response to OI 03.09-002(b) item 4 SNC Ltr ND-10-0949	(4) Revise Subsection 1.9, Table 1.9-201, for Regulatory Guide 1.192, from a listing in the FSAR Chapter, Section, or Subsection column of: Not referenced, see Appendix 1 AA To read: 3.9.6.3
6639	STD	PT02	FSAR01	01.09.T / T1.9-201 1.196	RAI LTR 168 response to RAI 06.04-007 item 2	2. Revise COLA Part 2, Chapter 1, Section 1.9, Table 1.9-201, for Regulatory Guide 1.196, from a listing in the FSAR Chapter, Section, or Subsection column of: Not referenced; see Appendix 1AA To read: 6.4.3
7786	STD	PT02	FSAR01	01.09.T/T1.9-201 1.199	VEGP-VOL-Ch03 SIP response to STD COL 03.08-005 item 3 SNC Ltr ND-10-1594	3. COLA Part 2, FSAR Chapter 1, Section 1.9, Table 1.9-201, Regulatory Guide 1.199 will be revised to read: DCD discussion only; See DCD Table 1.9-1
7758	STD	PT02	FSAR01	01.09.T/T1.9-204 B88-11	RAI LTR 057 response to RAI 03.12-002 (SNC LTR ND-10-1263 and ND-10-1501), Item 1	COLA Part 2, FSAR Chapter 1, Table 1.9-204, will be revised to include a new line item, to read: 88-11 Pressurizer Surge Line Thermal Stratification 3.9.3.1.2
8383	STD	PT02	FSAR01	01.09.T / T1.9-204 Sh02	VEGP-RAI-LTR-064 response to RAI 01.05-003 item 1 SNC Ltr ND-10-2257	1. COLA Part 2, FSAR Chapter 1, Section 1.9, Table 1.9-204, Bulletin Number 05-01, Material Control and Accounting at Reactors and Wet Spent Fuel Storage Facilities, will be revised to read: Number Title Comment 05-01 Material Control and Accounting at Reactors and Wet Spent Fuel Storage Facilities 13.5.2.2.9
8139	STD	PT02	FSAR01	01.10.02	VEGP-RAI-LTR-063 response to RAI 01.05-002 item 1 SNC Ltr ND-10-2114	1. COLA Part 2, FSAR Chapter 1, Subsection 1.10.2, last paragraph, will be revised from: This assessment identified administrative and managerial controls to avoid impacts to SSCs from construction. The results of the assessment are presented in Table 1.10-202. To read: The initial assessment consisted of a review of individual SSCs and LCOs to determine whether an item is applicable, or may be eliminated due to either examination or being internal and specific to an operating unit. The assessment identified the SSCs that could reasonably be expected to be impacted by construction activities unless administrative and managerial controls are established. The results of the assessment are presented in Table 1.10-202. Periodic assessment during construction is addressed in Appendix 13AA, Subsection 13AA.1.1.1.1.8

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
8140	STD	PT02	FSAR01	01.10.03	VEGP-RAI-LTR-063 response to RAI 01.05-002 item 2 SNC Ltr ND-10-2114	2. COLA Part 2, FSAR Chapter 1, Subsection 1.10.3, last paragraph, will be revised to read: The above discussed controls to eliminate or mitigate construction hazards that could potentially impact operating unit SSCs important to safety are in place when there is an operating nuclear unit on the site. Additional controls may be established during construction as addressed in Appendix 13AA, Subsection 13AA.1.1.1.8.
8143	STD	PT02	FSAR01	01.10.T / T1.10-201	VEGP-RAI-LTR-063 response to RAI 01.05-002 item 5 SNC Ltr ND-10-2114 (Note that this change actually affects Table 1.10-201, not 202.)	5. COLA Part 2, FSAR Chapter 1, Subsection 1.10, Table 1.10-202, will be revised to read: Equipment and Material Laydown, Storage, Warehousing • Releases of Flammable, Hazardous or Toxic Materials
8142	STD	PT02	FSAR01	01.10.T / T1.10-202	VEGP-RAI-LTR-063 response to RAI 01.05-002 item 4 SNC Ltr ND-10-2114	4. COLA Part 2, FSAR Chapter 1, Subsection 1.10, Table 1.10-202, will be revised to include the following new item: Impact of Local Flooding • Safety-related structures, systems, and components (SSCs)
8144	STD	PT02	FSAR01	01.10.T / T1.10-203	VEGP-RAI-LTR-063 response to RAI 01.05-002 item 6 SNC Ltr ND-10-2114	6. COLA Part 2, FSAR Chapter 1, Subsection 1.10, Table 1.10-203, will be revised to include the following new item: Impact of Local Flooding • Site grading and drainage provisions consider potential flooding impacts from local intense precipitation
8145	STD	PT02	FSAR01	01.10.T / T1.10-203	VEGP-RAI-LTR-063 response to RAI 01.05-002 item 7 SNC Ltr ND-10-2114	7. COLA Part 2, FSAR Chapter 1, Subsection 1.10, Table 1.10-203, will be revised to include the following new item: Impact of Site Groundwater Dewatering • Administrative controls address groundwater level monitoring
8441	STD	PT02	FSAR01	01AA 1.011	DCD Rev 18	COLA Part 2, FSAR Chapter 1, Appendix 1AA, is revised to include Regulatory Guide 1.11 to read: Regulatory Guide 1.11, Rev. 1, 3/10 – Instrument Lines Penetrating the Primary Reactor Containment
HAR-152	HAR	PT02	FSAR01	01AA RG 1.028	Editorial	Conformance with the design aspects is as stated in the DCD. This guidance is completely within the scope of the DCD.
HAR-153	HAR	PT02	FSAR01	01AA RG 1.033	Editorial	COLA Part 2, Appendix 1AA, Regulatory Guide 1.28, add the word "General" under the column "Criteria Section"
LNP-392	HAR	PT 02	FSAR 01	01AA RG 1.097	To match VEGP R-COLA	COLA Part 2, Appendix 1AA, Regulatory Guide 1.33, delete "& C.3" from the first entry in the Criteria Section column.
7787	STD	PT02	FSAR 01	01AA RG 1.199	VEGP-VOL-Ch03 SIP response to STD COL 03.08-005 item 4 SNC Ltr ND-10-1594	COLA Part 2, Appendix 1AA, Regulatory Guide 1.97, add the following sentence as the second sentence to the conformance statement: "Conformance with this Regulatory Guide for programmatic and/or operational aspects is documented below."
6953	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 1 (SNC LTR ND-10-1300)	4. COLA Part 2, FSAR Chapter 1, Appendix 1AA, Regulatory Guide 1.199 will be revised to read: Conformance with Revision 0 of the Regulatory Guide is as stated in the DCD. This guidance is completely within the scope of the DCD.
Chapter 2						
6953	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 1 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, first column, under the "Seismic" related site parameter, will be revised from "SSE" to "CSDRS". In addition, the beginning of the second column, under the "Seismic" related AP1000 DCD site parameter "SSE" (now "CSDRS"), will be revised from: SSE free field peak ground acceleration of 0.30 g with modified Regulatory Guide 1.60 response spectra (See Figures 5.0-1 and 5.0-2). Seismic input is defined... To read: CSDRS free field peak ground acceleration of 0.30 g with modified Regulatory Guide 1.60 response spectra (See Figures 5.0-1 and 5.0-2). The SSE is now referred to as CSDRS. Seismic input is defined...

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7229	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 2 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, second paragraph, under the "Seismic" related AP1000 DCD site parameter SSE (now CSDRS), will be revised from: The hard rock high frequency (HRHF) ground motion spectra (GMRS) are shown in Figure 5.0-3 and Figure 5.0-4 defined at the foundation level for 5% damping. The HRHF GMRS provides an alternative set of spectra for evaluation of site-specific GMRS. A site is acceptable if its site specific GMRS fall within the AP1000 HRHF GMRS. To read: The hard rock high frequency (HRHF) envelope response spectra are shown in Figure 5.0-3 and Figure 5.0-4 defined at the foundation level for 5% damping. The HRHF envelope response spectra provide an alternative set of spectra for evaluation of site-specific GMRS. A site is acceptable if its site-specific GMRS falls within the AP1000 HRHF envelope response spectra. Evaluation of a site for application of the HRHF envelope response spectra includes consideration of the limitation on shear wave velocity identified for use of the HRHF envelope response spectra. This limitation is defined by a shear wave velocity at the bottom of the basement equal to or higher than 7,500 fps, while maintaining a shear wave velocity equal to or above 8,000 fps at the lower depths.
7230	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 3 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Seismic" related AP1000 DCD site parameter "Fault Displacement Potential," will be revised from "Negligible" to read: No potential fault displacement considered beneath the Seismic Category I and Seismic Category II structures and immediate surrounding area. The immediate surrounding area includes the effective soil supporting media associated with the Seismic Category I and Seismic Category II structures.
7232	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 4 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Soil" related AP1000 DCD site parameter "Maximum Allowable Dynamic Bearing Capacity for Normal Plus Safe Shutdown Earthquake (SSE)," will be revised to remove the "Maximum Allowable" portion of the parameter to read: Dynamic Bearing Capacity for Normal Plus Safe Shutdown Earthquake (SSE)
7233	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 5 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Soil" related AP1000 DCD site parameter "Liquefaction Potential," will be revised from "Negligible" to read: No liquefaction considered beneath the seismic Category I and seismic Category II structures and immediate surrounding area. The immediate surrounding area includes the effective soil supporting media associated with the seismic Category I and seismic Category II structures.
7234	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 6 (SNC LTR ND-10-1300)	6. COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, third column, under the "Soil" related site specific COLA site characteristic "Liquefaction Potential" will be revised from "None" to read: None at the site-specific SSE. Foundations of seismic Category I structures are on rock.
6954	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 7 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Soil" related AP1000 DCD site parameter "Minimum Soil Angle of Internal Friction," will be revised from: Greater than or equal to 35 degrees below footprint of nuclear island at its excavation depth. To read: The minimum soil angle of internal friction is greater than or equal to 35 degrees below the footprint of nuclear island at its excavation depth. If the minimum soil angle of internal friction is below 35 degrees, a site-specific analysis shall be performed using the site-specific soil properties to demonstrate stability.
7515	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 8 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, first column, under the "Soil" related site parameter, will be revised to add a new site parameter: Limits Of Acceptable Settlement Without Additional Evaluation ⁽⁹⁾ [superscript]

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7516	STD	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 9 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, second column, under the "Soil" related site parameter, will be revised to add the AP1000 DCD Site Parameter values for the new settlement site parameter: Differential Across Nuclear Island Foundation Mat1/2 inch in 50 ft Total for Nuclear Island Foundation Mat6 inches Differential Between Nuclear Island and Turbine Building ⁰ 3 inches Differential Between Nuclear Island and Other Buildings ⁰ 3 inches (i) Additional evaluation may include evaluation of the impact of the elevated estimated settlement values on the critical components of the AP1000, determining a construction sequence to control the predicted settlement behavior, or developing an active settlement monitoring system throughout the entire construction sequence as well as a long-term (plant operation) plan. (j) Differential settlement is measured at center of Nuclear Island and center of adjacent structures.
HAR-002	HAR	PT 02	FSAR 02	02.00.T/T2.0-201	COL VOL 02.00-001, Item 10 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-201, third-fourth-fifth columns, under the "Soil" related site parameter, will be revised to add the LNP site characteristic information for the new settlement site parameter which correspond to the new DCD site parameter items: <1/4 inch in 50 ft (projected)2.5.4.10.3Yes (projected) < 1 inch (projected) < 1 inch (projected) < 1 inch (projected)
7297	STD	PT 02	FSAR 02	02.00.T/T2.0-202	COL VOL 02.00-001, Item 11 (SNC LTR ND-10-1300)	COLA Part 2, FSAR Chapter 2, Section 2.0, Table 2.0-202, sheet 1 of 2, DCD column header for HVAC Intake from the "Ground Level Containment Release Points" will be revised to omit note (h) from header notations (c,h) to read: (c), and to remove note (h) from the Notes section of the table. This note currently reads: h) The LOCA dose analysis models the ground level containment release point HVAC intake atmospheric dispersion factors. Other analyses model more conservative values.
HAR-016	HAR	PT 02	FSAR 02	02.02.02.07	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.2.2.7, first paragraph, second sentence will be revised to replace "(50 mi. radius)" with "(80 km [50 mi.] radius)"
HAR-017	HAR	PT 02	FSAR 02	02.03.01.02.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.3.1.2.2, next to last paragraph (page 2.3-9) revise "179 km/h (112 mph)" to "180 km/h (112 mph)" for consistency in unit conversion.
HAR-018	HAR	PT 02	FSAR 02	02.03.01.T/T2.3.1-202	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.3.1-202 add a border to the bottom of sheet 1 of the table.
HAR-003	HAR	PT 02	FSAR 02	02.03.03.T/T2.3.3-202	NPD-NRC-2009-069 H-0458 Response	Add "(-108°F to +108°F calculated)" for the instrument range below the line for Differential Pressure on Table 2.3.3-202
HAR-019	HAR	PT 02	FSAR 02	02.04.03.03	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.4.3.3, the sentence, "Land Surface Areas - Unit hydrographs were applied to transform excess rainfall over land surface areas into runoff." needs to be added to the following bulleted items as "• Land Surface Areas - Unit hydrographs were applied to transform excess rainfall over land surface areas into runoff."
HAR-020	HAR	PT 02	FSAR 02	02.04.05.01	Editorial	COLA Part 2, FSAR chapter 2, Subsection 2.4.5.1 reformat the text and moved the "and" from the bottom line to the next line above as follows: "Where AF is the asymmetry factor in KT, T is the forward wind speed of the storm in KT, T0 = 1 when AF and T are in KT, and and β is the angle between track direction and the surface wind direction."

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
						COLA Part 2, FSAR Chapter 2, Subsection 2.4.5.1 will be revised from: "where $V(t)$ is the inland storm wind speed on traveling overland for time (t) hours after landfall, V_b is the background wind speed, R_f is the initial decay factor just after the landfall, V_o is the storm wind speed just before the landfall, and α is a coefficient." To read: Reformatted the text as follows: "where $V(t)$ is the inland storm wind speed on traveling overland for time (t) hours after landfall, V_b is the background wind speed, R_f is the initial decay factor just after the landfall, V_o is the storm wind speed just before the landfall, and α is a coefficient."
HAR-021	HAR	PT 02	FSAR 02	02.04.05.01	Editorial	
HAR-022	HAR	PT 02	FSAR 02	02.04.01.T/T2.4.1-202 Sh 1	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.4.1-202 (Sheet 1 of 2) add a border line at the bottom of the table on Sheet 1.
HAR-023	HAR	PT 02	FSAR 02	02.04.01.T/T2.4.1-205 Sh 1	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.4.1-205 (Sheet 1 of 2) add a border line at the bottom of the table on Sheet 1.
HAR-024	HAR	PT 02	FSAR 02	02.04.01.T/T2.4.1-207 Sh 1, 2	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.4.1-207 (Sheets 1 and 2 of 3) add a border line at the bottom of the table on Sheets 1 and 2.
HAR-025	HAR	PT 02	FSAR 02	02.04.01.T/T2.4.1-208 Sh 1, 2	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.4.1-208 (Sheets 1 and 2 of 3) add a border line at the bottom of the table on Sheets 1 and 2.
HAR-026	HAR	PT 02	FSAR 02	02.04.03.T/T2.4.3-211	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.4.3-211 add a border line at the bottom of the table on Sheets 1.
HAR-027	HAR	PT 02	FSAR 02	02.04.03.T/T2.4.3-226 Sh 1	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.4.3-226 add a border line at the bottom of the table on Sheet 1.
HAR-072	HAR	PT 02	FSAR 02	02.05.00.01.01	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.0.1.1, third paragraph, fifth line add "close to or" after "distance of" and before "slightly more."
HAR-073	HAR	PT 02	FSAR 02	02.05.00.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.0.2, will be revised to remove the reference to Regulatory Guide 1.165.
HAR-028	HAR	PT 02	FSAR 02	02.05.00.04	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.0.4, third paragraph after the bullet list change "safety-related structures" to "the nuclear islands."
						COLA Part 2, FSAR Chapter 2, Subsection 2.5.0.4, fourth paragraph
						Add a new sentence to end of 4th paragraph that reads: "Field verification testing will be performed during construction to ensure compacted granular fill placed under other structures adjacent to the nuclear islands will not liquefy."
HAR-029	HAR	PT 02	FSAR 02	02.05.00.04		
HAR-030	HAR	PT 02	FSAR 02	02.05.00.04	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.0.4, fifth paragraph after the bullet list change "safety-related structures" to "the nuclear islands."
HAR-057	HAR	PT 02	FSAR 02	02.05.01.01	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1, first paragraph, last sentence will be revised to add "close to or" after "area," and before "just outside the."
HAR-058	HAR	PT 02	FSAR 02	02.05.01.01.01.05	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.5, first paragraph, first sentence delete the words "that is" after "sea level" and before "called"
						COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.4.2.3 delete the first paragraph and move to Section 2.5.1.1.4.2.4, Post-Cretaceous and Cenozoic Faults. The first paragraph is split into two and now reads as: Post-Cretaceous and Cenozoic Faults. (Prowell compilation [Reference 2.5.1 256]). Many investigators have recognized and documented post rift faulting of Cretaceous and Cenozoic ages in the Atlantic Coastal Plain (Figure 2.5.1 213). Prowell compiled information and described evidence for possible Cretaceous and Cenozoic faults in the eastern United States and identified the Atlantic Coast tectonic province based on the presence of these faults (References 2.5.1 256 and 2.5.1-225). Most of the HAR site region is located within the Atlantic Coast tectonic province. Most of the faults, which have displacements as great as hundreds of feet, trend roughly parallel to the regional fabric of Precambrian and Paleozoic crystalline rocks and are as long as 100 km (60 mi.) (Reference 2.5.1 242). The dips of faults range from 40 to 85 degrees, and may vary along a fault depending on the physical properties of the rocks in the adjacent fault blocks (Prowell in Reference 2.5.1-225). The most recent movement on many of these faults has been reverse motion due to the compressive stress regime of the southeastern United States (Reference 2.5.1 242) (see Subsection 2.5.1.1.4.1). A component of lateral slip has been reported for some of these reverse faults (Prowell in Reference 2.5.1-225). Slip rates on these faults vary locally from 0.3 to 1.5 m (1 to 5 ft.) per m.y., but during the past 110 m.y. have been relatively uniform at approximately 0.5 m (1.6 ft.) per m.y. (Reference 2.5.1 242).
HAR-059	HAR	PT 02	FSAR 02	02.05.01.01.04.02.03 02.05.01.01.04.02.04	Editorial	

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-060	HAR	PT 02	FSAR 02	02.05.01.01.04.02.04	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.4.2.4, first paragraph, second sentence under <u>Graingers Wrench Zone</u> will be revised to change "aeromagnetic" to "magnetic"
HAR-061	HAR	PT 02	FSAR 02	02.05.01.01.04.02.05.01.04	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.4.2.5.1.4, fifth paragraph, fifth and seventh sentences and sixth paragraph, second sentence will be revised to change "aeromagnetic" to "magnetic" (3 instances).
						COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.4.2.5.1.4: Vaughn et al. and Hatcher et al. (2010) added as a new references 2.5.1-391 and 2.5.1-392, respectively to this subsection and to the References (2.5.7). Text in the 8th and 9th paragraphs were revised for new information from these references and now read as: "Wheeler (Reference 2.5.1 259) assigns the ETSZ to Class C based on the lack of surficial geologic evidence that clearly demonstrates the occurrence of large earthquakes within the seismic zone. An NRC-sponsored research effort was initiated in the ETSZ in the last half of 2009 to help clarify the Late Quaternary earthquake history and potential of this seismic zone. At locations east to northeast of Knoxville, TN within Late Quaternary terrace deposits, Vaughn et al. (Reference 2.5.1-391) and Hatcher et al. (Reference 2.5.1-392) reported the occurrence of outcrop-scale strike-slip, reverse, and normal faults and prevalent fractures; minor paleoliquefaction features; and anomalous fractured and disrupted features attributed to liquefaction and forceful expulsion of groundwater during one or more major Late Quaternary earthquakes. These preliminary findings suggest that the ETSZ has a long history of Late Quaternary movement, but the recurrence interval and size of prehistoric earthquakes is yet to be determined. The available data are not sufficient to determine if the ETSZ could be considered a zone of repeated large-magnitude earthquakes. Therefore, despite the occurrence of moderate historical earthquakes and of continuing smaller earthquakes in this seismic zone that indicates tectonic activity in the area, based on the review of literature and new unpublished information, it is concluded that there is no definitive new information that suggests that the EPRI-SOG characterization of the ETSZ as outlined in Subsection 2.5.2.2.1 needs to be updated."
HAR-062	HAR	PT 02	FSAR 02	02.05.01.01.04.02.05.01.04	Editorial	
HAR-063	HAR	PT 02	FSAR 02	02.05.01.01.04.02.05.02.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.4.2.5.2.2, sixth bullet will be revised to change "aeromagnetic" to "magnetic"; Same change made in "East Coast Fault System - Southern (ECFS-S) Segment", 1st paragraph, 2nd sentence.
HAR-064	HAR	PT 02	FSAR 02	02.05.01.01.04.02.05.03.01	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.4.2.5.3.1, last paragraph, last sentence will be revised to remove the reference to Regulatory Guide 1.165.
HAR-065	HAR	PT 02	FSAR 02	02.05.01.01.04.03.01	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.4.3.1, in the <u>Sawmill Branch Fault</u> subsection, first sentence, insert "of" between "analysis" and "microseismicity."
HAR-066	HAR	PT 02	FSAR 02	02.05.01.01.04.04.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.1.4.4.2, third paragraph, second sentence will be revised to change "aeromagnetic" to "magnetic" (two instances).
HAR-067	HAR	PT 02	FSAR 02	02.05.01.02.04.01.01	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.2.4.1.1, first paragraph, sixth sentence will be revised to change "aeromagnetic" to "magnetic"
HAR-093	HAR	PT 02	FSAR 02	02.05.01, LOF	Editorial	Figure 2.5.1-214 and Figure 2.5.1-223 do not appear in the text, but do appear with a figure title in the List of Figures. Reference to Figure 2.5.1-214 added to 2.5.1.1.4.2.2, second paragraph, second sentence. Reference to Figure 2.5.1-223 added to 2.5.1.1.4.3.1, first paragraph, third sentence.
HAR-094	HAR	PT 02	FSAR 02	02.05.01, 02.05.03, LOF	Editorial	Figure 2.5.3-201 is called out in Section 2.5.1 only (Section 2.5.1.2.2, Section 2.5.1.2.4.1.1.3, Section 2.5.1.2.4.1.1.4, and Section 2.5.1.2.4.1.1.5). The following sentence has been added to the first paragraph of 2.5.3.1.1: "A map showing the locations of fault investigation trenches and geophysical surveys completed near the HAR site is shown on Figure 2.5.3-201."
HAR-069	HAR	PT 02	FSAR 02	02.05.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.2 will be revised to Regulatory Guide 1.165 throughout the entire Subsection.
HAR-074	HAR	PT 02	FSAR 02	02.05.02.F/2.5.2-205	Editorial	COLA Part 2, FSAR Chapter 2, Figure 2.5.2-205 will be revised to modify the source label for LAW-22 from "LAW-22" to "LAW-C11 (22)" for clarity with the text and tables.
HAR-075	HAR	PT 02	FSAR 02	02.05.02.F/2.5.2-206	Editorial	COLA Part 2, FSAR Chapter 2, Figure 2.5.2-206 will be revised to modify the source label for RND-C01 and RND-C02 on Figure 2.5.2-206 from "RND-C01" to "RND-C01 (49)" and "RND-C02" to "RND-C02 (50)" for clarity with the text and tables.
HAR-076	HAR	PT 02	FSAR 02	02.05.02.F/2.5.2-224	Editorial	COLA Part 2, FSAR Chapter 2, Figure 2.5.2-224 will be revised to add following:
HAR-077	HAR	PT 02	FSAR 02	02.05.02.F/2.5.2-225	Editorial	COLA Part 2, FSAR Chapter 2, Figure 2.5.2-225 will be revised to add following: "Note: C01 is Source 49; C02 is Source 50" for clarity with the text and the tables.
HAR-078	HAR	PT 02	FSAR 02	02.05.02.F/2.5.2-226	Editorial	COLA Part 2, FSAR Chapter 2, Figure 2.5.2-226 will be revised to add following: "Note: Source C19 and 103 are alternative geometries" to improve clarity.
HAR-079	HAR	PT 02	FSAR 02	02.05.02.01.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.2.1.2, the bullet for January 8, 1817 , last sentence will revised from: "The HAR catalog uses the USGS National Hazard Mapping catalog, which lists the location as latitude 32.9N, longitude 80W, near Charleston, South Carolina." To read: "The HAR catalog uses the USGS National Hazard Mapping catalog location, which is latitude 32N, longitude 80W, near Charleston, South Carolina."

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-095	HAR	PT 02	FSAR 02	02.05.02.F / F2.5.2-304, LOF	Editorial	In the title for Figure 2.5.2-304, add the word "the" between "for" and "HAR."
HAR-096	HAR	PT 02	FSAR 02	02.05.02.F / F2.5.2-305, LOF	Editorial	In the title for Figure 2.5.2-305, add the word "the" between "for" and "HAR."
HAR-071	HAR	PT 02	FSAR 02	02.05.03.08	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.3.8, first paragraph following bullet list change "Regulatory Guide 1.165" to "Regulatory Guide 1.208."
HAR-004	HAR	PT 02	FSAR02	02.05.04.01.03	Correction	Revise the reference to RG 1.206 from Section C.III.2.5.4.3 to read: Section C.I.2.5.4
HAR-031	HAR	PT 02	FSAR 02	02.05.04.02.01.06.01	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.1.6.1 in the second bullet change "was" to "were."
						COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.1.6.1 first paragraph after the bullet list, second sentence delete: "but are not directly important to the safe performance of the Seismic Category 1 structures" and replace with:
HAR-032	HAR	PT 02	FSAR 02	02.05.04.02.01.06.01	Editorial	", and have been used as an indicator of the shear strength of clay seams within rock."
						COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.1.6.3, first paragraph is revised from: The top of rock is shallow at the HAR safety related structure locations. The existing soil profile will be removed for construction of the nuclear islands and the adjacent Annex Buildings, as discussed in Subsection 2.5.4.5. Therefore, the soil profile has minimal effect on the performance of safety related structures. Laboratory samples of soils were collected primarily to provide data on soils that may be left in place under nonsafety related structures, and to support construction slope stability of the upper slopes of the nuclear island excavations. To read: The top of rock is shallow at the HAR structure locations. The existing soil profile will be removed for construction of the nuclear islands (seismic Category 1 structures) and the adjacent Annex Buildings and Turbine Buildings (seismic Category 2 structures), as discussed in Subsection 2.5.4.5. Therefore, the soil profile has minimal effect on the performance of these structures. Laboratory samples of soils were collected primarily to provide data on soils that may be left in place under other structures and to support construction slope stability of the upper slopes of the nuclear island excavations.
HAR-033	HAR	PT 02	FSAR 02	02.05.04.02.01.06.03	Editorial	
						COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.1.6.3, second paragraph last two sentences are revised from: None of the soil like seams collected were considered sufficiently undisturbed for use as reliable consolidation test specimens. Therefore, correlation with index tests is considered the best available method to characterize the compressibility of these soil seams encountered below top of sound rock. To read: None of the soil like seams collected were considered sufficiently undisturbed for use as reliable consolidation or shear strength test specimens. Therefore, correlation with index tests and with surficial soil shear strength test results are considered the best available method to characterize the compressibility and shear strength of these soil seams encountered below top of sound rock.
HAR-034	HAR	PT 02	FSAR 02	02.05.04.02.01.06.03	Editorial	
HAR-035	HAR	PT 02	FSAR 02	02.05.04.02.02.06.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.2.6.2, first paragraph, first sentence correct verb tense (is to are, etc.)
HAR-036A	HAR	PT 02	FSAR 02	02.05.04.02.03.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.3.2, fourth paragraph, first sentence change "five samples" to "six samples."
						COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.3.2, last paragraph will be revised from: "These soil engineering property data have been used to evaluate nuclear island construction slope stability, and are available for analysis of nonsafety-related structure foundations, but do not affect the performance of safety-related structures." To read: "These soil engineering property data have been used to evaluate nuclear island construction slope stability, and have been used as an indicator of the shear strength of clay seams within rock."
HAR-036B	HAR	PT 02	FSAR 02	02.05.04.02.03.02	Editorial	

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-037	HAR	PT 02	FSAR 02	02.05.04.02.04.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.4.2, first sentence revise "(V _p)" to "(V _p)"
HAR-038	HAR	PT 02	FSAR 02	02.05.04.02.04.04	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.4.4, first paragraph after the bullet list will be revised as follows: 1st sentence: change "safety-related structures" to "Seismic Category I or II structures". 2nd sentence: Add "surificial" after "Therefore, ". 3rd sentence: Delete "are available for analysis of nonsafety-related structure foundations." and replace with "have been used as an indicator of the shear strength of clay seams within rock." COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.2.4.5 will be revised from:
HAR-039	HAR	PT 02	FSAR 02	02.05.04.02.04.05	Editorial	"Engineering properties of backfill to be placed adjacent to safety-related structures are discussed in Subsection 2.5.4.5.3." To read:
HAR-040	HAR	PT 02	FSAR 02	02.05.04.03	Editorial	"Engineering properties of backfill to be placed adjacent to the seismic Category I structures (nuclear islands) and under COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.3, first sentence will be revised to capitalize "State Plane North."
HAR-041	HAR	PT 02	FSAR 02	02.05.04.03	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.3, second paragraph after bullet list, last sentence will be revised to delete "safety-related."
HAR-005	HAR	PT 02	FSAR02	02.05.04.03	Correction	Revise the reference to RG 1.206 from Section C.III.2.5.4.3 To Read: Section C.I.2.5.4
HAR-043	HAR	PT 02	FSAR 02	02.05.04.04.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.4.2, second sentence will be revised to "nuclear island for the HAR." with "nuclear islands at HAR 2 and HAR 3."
HAR-044	HAR	PT 02	FSAR 02	02.05.04.04.02.01.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.4.2.1.2, second bullet, last sentence will be revised to replace "measurements below 1067 m/sec..." with "measurements close to or less than 1067 m/sec..."
HAR-045	HAR	PT 02	FSAR 02	02.05.04.05	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.5, second sentence will be revised from: "This subsection describes the preliminary excavation and backfill plans for the nuclear islands, including planned excavation extents and methods, properties of backfill adjacent to safety-related structures, and groundwater dewatering methods that will be appropriate during construction." To read: This subsection describes the preliminary excavation and backfill plans for the nuclear islands, including planned excavation extents and methods, properties of backfill adjacent to seismic Category I structures and under seismic Category II structures, and groundwater dewatering methods that will be appropriate during construction.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-006	HAR	PT 02	FSAR02	02.05.04.05.01	NPD-NRC-2010-072 H-0624 Item 1 Response	<p>1. Revise Section 2.5.4.5.1, second to last paragraph, from:</p> <p>"Soil and highly weathered rock will be excavated from beneath the HAR Annex Buildings (Seismic Category 2 structures), and replaced with concrete fill. Foundation design recommendations for nonsafety-related structures are not included in this FSAR, and will be finalized prior to construction. Conceptual excavation limits under nonsafety-related structures are shown on Figures 2.5.4 211A, 2.5.4 211B, 2.5.4 212A, and 2.5.4 212B."</p> <p>To read:</p> <p>"Excavation and backfill extents for the seismic Category II structures (Annex Buildings and first bays of the Turbine Buildings) and for other structures are shown on Figures 2.5.4 211A, 2.5.4 211B, 2.5.4 212A, and 2.5.4 212B. For the seismic Category II structures:</p> <ul style="list-style-type: none"> • Soil and highly weathered rock will be excavated from beneath the HAR Annex Buildings (seismic Category II structures) and replaced with concrete fill. • Soil will be excavated beneath the HAR Turbine Buildings down to partially weathered rock and replaced with either compacted granular fill or concrete fill. For the Turbine Buildings: <ul style="list-style-type: none"> - Partially weathered rock exposed after soil excavation will be inspected for subgrade suitability. Intervals of highly or completely weathered (soil-like) rock or soil infill will be over-excavated and replaced with compacted granular fill or concrete fill. The depth and extent of such over-excavations will be determined based on the results of the subgrade inspection. - If compacted granular fill will be used, a minimum thickness (T_{min}) of compacted granular fill will be placed beneath the Turbine Building foundations. The value of T_{min} will be determined after the Turbine Building bearing pressures and subgrade modulus requirements are finalized. Limited rock over-excavation in isolated locations of high rock elevation, where encountered, will likely be required. - If compacted granular fill will be used, the zone of excavation and fill placement will extend beyond the Turbine Building walls to a horizontal distance of at least twice the adjacent excavation depth beneath the Turbine Building foundations. - The items listed here will apply to the entire footprint of each Turbine Building, not just to the seismic Category II portion. <p>A 2-inch gap will be maintained between the Turbine Building basemats and the nuclear islands by use of a durable joint filler. If concrete fill is placed beneath the Turbine Building basemats, the 2-inch gap and joint filler will be installed throughout the depth of concrete fill between the concrete fill and the nuclear island.</p> <p>Foundation design recommendations for other nonsafety-related structures are not included in this FSAR, and will be finalized prior to construction."</p>
HAR-046	HAR	PT 02	FSAR 02	02.05.04.07	Editorial	<p>COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.7, last paragraph: Revise last sentence for clarity from:</p> <p>Such materials are considered to be too stiff to perform laboratory tests using resonant column/cyclic torsional shear tests for modulus degradation and damping, and such testing was not performed. Subsection 2.5.2.5.1.4 describes the modulus degradation and damping relationships that were used for rock to develop the GMRS and the FIRS for HAR 2 and HAR 3.</p> <p>To read:</p> <p>Such materials are considered to be too stiff to perform laboratory tests using resonant column/cyclic torsional shear tests for reliable modulus degradation and damping versus shear strain determinations, and for this reason such testing was not performed. Subsection 2.5.2.5.1.4 describes the modulus degradation and damping relationships that were used to develop the GMRS and the FIRS for HAR 2 and HAR 3.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-007	HAR	PT 02	FSAR02	02.05.04.08	NPD-NRC-2010-072 H-0624 Item 2 Response	<p>2. Revise Section 2.5.4.8, introductory text, from:</p> <p>"The potential for liquefaction beneath structures adjacent to the nuclear islands at the HAR site was evaluated, as summarized herein.</p> <p>The HAR 2 and HAR 3 nuclear islands (Seismic Category 1 structures) will each be founded on sound rock. The Annex Buildings (Seismic Category 2 structures) will be founded at or near the top of sound bedrock. Where the Annex Building foundations are above sound rock, overburden soils and weathered rock will be excavated to sound rock and replaced with concrete fill under the Seismic Category 2 portions of the Annex Building foundations, as described in Subsection 2.5.4.5.1. Therefore, compacted backfill is not required to perform any safety-related function for the Seismic Category 1 or 2 structures. The potential for liquefaction was evaluated for nonsafety-related structures supported on compacted granular fill and for native soils present outside the areas of excavation. Compacted granular fill will be placed under and around nonsafety-related structures adjacent to the nuclear islands (Turbine and Radwaste buildings). Even though these adjacent structures are nonsafety-related, the compacted granular fill has been specified to prevent the development of liquefaction.</p> <p>The evaluation of the liquefaction resistance of compacted granular fill under nonsafety-related structures is summarized below. This evaluation is based on the backfill properties specified in Table 2.5.4-212. A liquefaction screening evaluation of native soils present at the HAR sites is also presented. The screening evaluation demonstrates that native soils are not susceptible to liquefaction."</p> <p>To read:</p> <p>"The potential for liquefaction of soils beneath and adjacent to seismic Category I and II structures at the HAR site was evaluated, as summarized herein.</p> <p>The HAR 2 and HAR 3 nuclear islands (seismic Category I structures) will each be founded on sound rock. The Annex Buildings (seismic Category II structures) will be founded at or near the top of sound rock. Where the Annex Building foundations are above sound rock, overburden soils and weathered rock will be excavated to sound rock and replaced with concrete fill under the seismic Category II portions of the Annex Building foundations, as described in Subsection 2.5.4.5.1. The Turbine Buildings (the first bay of each is a seismic Category II structure) may be founded on either compacted granular fill or concrete fill over partially weathered and sound rock.</p> <p>The evaluation of the liquefaction resistance of compacted granular fill is summarized in the following subsections. This evaluation is based on the backfill properties specified in Table 2.5.4-212, which were specified in part to prevent the development of liquefaction. A liquefaction screening evaluation of native soils present at the HAR sites is also presented. The screening evaluation demonstrates that native soils are predominantly cohesive and therefore are not susceptible to liquefaction."</p>
HAR-008	HAR	PT 02	FSAR02	02.05.04.08.01	(Superseded by editorial clarification listed below for 2.5.4.8.1 per RAI 2.5.4-16) NPD-NRC-2010-072 H-0624 Item 3 Response	<p>3. Revise Section 2.5.4.8.1, last sentence, from:</p> <p>"The results of these evaluations demonstrate that granular backfill under and near nonsafety-related structures will provide acceptable resistance to liquefaction for the specified ground motions."</p> <p>To read:</p> <p>"The results of these evaluations demonstrate that compacted granular fill which may be placed beneath and adjacent to seismic Category I and II structures will provide acceptable resistance to liquefaction for the specified ground motions."</p>
HAR-009	HAR	PT 02	FSAR02	02.05.04.08.03	SUPERSEDED by HAR-083 NPD-NRC-2010-072 H-0624 Item 4 Response	<p>4. Revise Section 2.5.4.8.3 from:</p> <p>"The following construction guidelines apply to soils under and adjacent to nonsafety-related structures.</p> <ul style="list-style-type: none"> • Construction verification testing should be performed to ensure that compacted granular fill beneath nonsafety-related structures meets the criteria listed in Table 2.5.4-212 for relative compaction and for Vs. • Potentially liquefiable in-situ native granular soils near site grade should be either improved or replaced with non-liquefiable soil adjacent to the nonsafety-related structure foundations and compacted granular fill. <p>The compacted backfill will not serve any safety-related function. However, since the compacted backfill will be placed adjacent to the nuclear islands, selection and testing of backfill sources will be performed prior to construction, as described in Subsection 2.5.4.5. This verification testing will ensure that the backfill materials satisfy the criteria listed in Table 2.5.4-212."</p> <p>To read:</p> <p>The following construction guidelines apply to soils under and adjacent to seismic Category I and II structures:</p> <ul style="list-style-type: none"> • Construction verification testing should be performed to ensure that compacted granular fill meets the criteria listed in Table 2.5.4-212 for relative compaction and for Vs. • Potentially liquefiable in-situ native granular soils near site grade should be either improved or replaced with non-liquefiable soil adjacent to structure foundations and compacted granular fill. <p>Selection and testing of backfill sources will be performed prior to construction, as described in Subsection 2.5.4.5. This verification testing will ensure that the backfill materials satisfy the criteria listed in Table 2.5.4-212.</p>
HAR-082	HAR	PT 02	FSAR02	02.05.04.08.01	AFTER RAI 2.5.4-16 REVISION	<p>COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.8.1, last sentence will be revised from:</p> <p>"The results of these evaluations demonstrate that granular backfill under and near nonsafety-related structures will provide acceptable resistance to liquefaction for the specified ground motions."</p> <p>To read:</p> <p>"The results of these evaluations demonstrate that compacted granular fill, which may be placed adjacent to Seismic Category I Structures or beneath Seismic Category II structures, will provide acceptable resistance to liquefaction for the specified ground motions."</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-047	HAR	PT 02	FSAR 02	02.05.04.08.03	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.8.3, subsection heading will be revised from: "Recommendations for Nonsafety-Related Backfill" To read: "Recommendations for Nonsafety-Related Backfill and Adjacent Native Soils"
HAR-083	HAR	PT 02	FSAR 02	02.05.04.08.03	AFTER RAI 2.5.4-16 REVISION	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.8.3, last sentence will be revised from: "The following construction guidelines apply to soils under and adjacent to nonsafety-related structures." • Construction verification testing should be performed to ensure that compacted granular fill beneath nonsafety-related structures meets the criteria listed in Table 2.5.4-212 for relative compaction and for V_s . • Potentially liquefiable in-situ native granular soils near site grade should be either improved or replaced with non-liquefiable soil adjacent to the nonsafety-related structure foundations and compacted granular fill. The compacted backfill will not serve any safety-related function. However, since the compacted backfill will be placed adjacent to the nuclear islands, selection and testing of backfill sources will be performed prior to construction, as described in Subsection 2.5.4.5. This verification testing will ensure that the backfill materials satisfy the criteria listed in Table 2.5.4-212." To read: "The following construction guidelines apply to backfill adjacent to Seismic Category I structures and beneath Seismic Category II structures, and to native soils adjacent to these structures: • Construction verification testing should be performed to ensure that compacted granular fill meets the criteria listed in Table 2.5.4-212 for relative compaction and for V_s . • Potentially liquefiable in-situ native granular soils near site grade should be either improved or replaced with non-liquefiable soil adjacent to structure foundations and compacted granular fill. Selection and testing of backfill sources will be performed prior to construction, as described in Subsection 2.5.4.5. This verification testing will ensure that the backfill materials satisfy the criteria listed in Table 2.5.4-212."
HAR-049	HAR	PT 02	FSAR 02	02.05.04.10	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.10, subsection heading will be revised from: "Static Stability" To read: "Static and Dynamic Stability"
HAR-050	HAR	PT 02	FSAR 02	02.05.04.10	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.10, first sentence will be revised from: "The static stability of the HAR 2 and HAR 3 nuclear islands was evaluated for foundation bearing capacity, sliding, foundation settlement, and lateral pressures against below-grade walls." To read: "Evaluations of the static and dynamic stability of the HAR 2 and HAR 3 nuclear islands were performed for foundation bearing capacity, sliding, foundation settlement, and lateral pressures against below-grade walls."
HAR-051	HAR	PT 02	FSAR 02	02.05.04.10.01.03.05	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.10.1.3.5: Last sentence in bullet revised from: For these reasons, the FS values for dynamic bearing demand at HAR 2 and 3 are greater than those presented herein. To read: For these reasons, the FS against dynamic bearing demand at HAR 2 and 3 are greater than those presented herein.
HAR-052	HAR	PT 02	FSAR 02	02.05.04.10.03.03	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.10.3.3, second to last paragraph, change "0.41 MPa (8600 psf)" to "0.43 MPa (8900 psf)" or to the DCD rev. 18 value (2 places revised in paragraph).

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-053	HAR	PT 02	FSAR 02	02.05.04.10.03.07	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.4.10.3.7, first sentence will be revised to change "nuclear island" to "nuclear islands" (plural).
HAR-054	HAR	PT 02	FSAR 02	02.05.04.T/T2.5.4-208 Sh 2, 3	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.5.4-208, Sheets 2 and 3 will be revised to adjust column widths/alignments for consistency.
HAR-055	HAR	PT 02	FSAR 02	02.05.04.T/T2.5.4-209 Sh 2	Editorial	COLA Part 2, FSAR Chapter 2, Table 2.5.4-209, Sheet 2 will be revised to adjust column widths/alignments for consistency.
HAR-089	HAR	PT02	FSAR 02	02.05.06.17	COL VOL 02.05-017 (SNC LTR ND-10-1281)	COLA Part 2, FSAR Chapter 2, Section 2.5, will be revised to add the following new Subsection 2.5.6.17 to read: 2.5.6.17 Waterproofing System HAR COL 2.5-17 This COL item is addressed in Subsection 14.3.3.1.
HAR-097	HAR	PT 02	FSAR 02	02.00.T/T2.0-201	Editorial	Added List of Acronyms to end of table.
HAR-800					Editorial	Updated the number of table pages in title.
						Miscellaneous editorial edits throughout the document.
HAR-801	HAR	PT 02	FSAR 02	02.05.01.02.04.04.02	Editorial	COLA Part 2, FSAR Chapter 2, Subsection 2.5.1.2.4.4.2, first paragraph, first sentence will be revised to change "aeromagnetic" to "magnetic"
HAR-802	HAR	PT 02	FSAR 02	02.05.02.02.01.04	Editorial	Revise wording in 4th bullet (Central Virginia Seismic Zone (Source 29)) from "...defined by aeromagnetic, gravity, and volcanic-plutonic rocks..." to "...defined by magnetic anomalies, gravity anomalies, and volcanic-plutonic rocks..."
HAR-803	HAR	PT 02	FSAR 02	02.05.03.05	Editorial	Revise title of subsection 2.5.3.5 to "2.5.3.5 Relationship of Tectonic Sources in the Site Area to Regional Tectonic Structures" and revise wording in first paragraph of Subsection 2.5.3.5 to remove reference to RG 1.165 and change to RG 1.208. Paragraph now reads as: Mapped surface bedrock faults within the site area (8 km [5 mi.] radius) are primarily related to the formation of the Mesozoic Deep River basin. There is no new information to suggest that the faults associated with the Mesozoic basins in the site region are capable tectonic sources as defined by Regulatory Guide 1.208 (Appendix A).
HAR-804	HAR	PT 02	FSAR 02	02.05.02.F / F2.5.2-247, LOF	Editorial	Revise figure title and legend from "UHS" to "UHRS" for language in RG 1.208. Also update LOF.
HAR-805	HAR	PT 02	FSAR 02	02.05.02.F / F2.5.2-248, LOF	Editorial	Revise figure title and legend from "UHS" to "UHRS" to match language in RG 1.208. Also update LOF.
HAR-806	HAR	PT 02	FSAR 02	02.05.02.F / F2.5.2-249, LOF	Editorial	Revise figure title and legend from "UHS" to "UHRS" to match language in RG 1.208. Also update LOF.
HAR-807	HAR	PT 02	FSAR 02	02.05.02.F / F2.5.2-250, LOF	Editorial	Revise figure title and legend from "UHS" to "UHRS" to match language in RG 1.208. Also update LOF.
HAR-808	HAR	PT 02	FSAR 02	02.05.02.F / F2.5.2-293	Editorial	Revise figure legend for Scaled Smooth Rock from "UHS" to "UHRS" to match language in RG 1.208 and for consistency with rest of figure.
HAR-809	HAR	PT 02	FSAR 02	02.05.02.F / F2.5.2-294	Editorial	Revise figure legend for Scaled Smooth Rock from "UHS" to "UHRS" to match language in RG 1.208 and for consistency with rest of figure.
HAR-810	HAR	PT 02	FSAR 02	02.00.T/T2.0-202	Editorial	Added List of Acronyms to end of table.
HAR-811	HAR	PT 02	FSAR 02	02.05.02.04.01.01	Editorial	4th paragraph, last sentence, revised reference number for Campbell from 2.5.1-272 to 2.5.2-272.
Chapter 3						

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7020	STD	PT02	FSAR 03	03.06.04.01	Superseded by COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 2 COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 2 (SNC Ltr ND-10-0585)	<p>Replace the last paragraph in DCD Subsection 3.6.4.1 with the following text.</p> <p>Combined License applicants referencing the AP1000 certified design will complete the as-designed pipe rupture hazards evaluation and make design information available for NRC review. The completed as-designed pipe rupture hazards evaluation will be in accordance with the criteria outlined in DCD Subsections 3.6.1.3.2 and 3.6.2.5.</p> <p>A pipe rupture hazards analysis is part of the piping design. The evaluation will be performed for high and moderate energy piping to confirm the protection of systems, structures, and components which are required to be functional during and following a design basis event. The locations of the postulated ruptures and essential targets will be established and required pipe whip restraints and jet shield designs will be included. The report will address environmental and flooding effects of cracks in high and moderate energy piping. The as-designed pipe rupture hazards evaluation is prepared on a generic basis to address COL applications referencing the AP1000 design.</p> <p>The pipe whip restraint and jet shield design includes the properties and characteristics of procured components connected to the piping, components, and walls at identified break and target locations. The design will be completed prior to installation of the piping and connected components.</p> <p>The as-built reconciliation of the pipe rupture hazards evaluation whip restraint and jet shield design in accordance with the criteria outlined in DCD Subsections 3.6.1.3.2 and 3.6.2.5 will be completed prior to fuel load (in accordance with DCD Tier 1</p>
7069	STD	PT02	FSAR 03	03.06.04.01	COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 2 (SNC Ltr ND-10-0801)	<p>2. COLA Part 2, FSAR Chapter 3, Subsection 3.6.4.1, will be revised to read:</p> <p>Replace the last paragraph in DCD Subsection 3.6.4.1 with the following text.</p> <p>The as-designed pipe rupture hazards evaluation is made available for NRC review. The completed as-designed pipe rupture hazards evaluation will be in accordance with the criteria outlined in DCD Subsections 3.6.1.3.2 and 3.6.2.5. Systems, structures, and components identified to be essential targets protected by associated mitigation features (Reference is DCD Table 3.6-3) will be confirmed as part of the evaluation, and updated information will be provided as appropriate.</p> <p>A pipe rupture hazards analysis is part of the piping design. The evaluation will be performed for high and moderate energy piping to confirm the protection of systems, structures, and components which are required to be functional during and following a design basis event. The locations of the postulated ruptures and essential targets will be established and required pipe whip restraints and jet shield designs will be included. The report will address environmental and flooding effects of cracks in high and moderate energy piping. The as-designed pipe rupture hazards evaluation is prepared on a generic basis to address COL applications referencing the AP1000 design.</p> <p>The pipe whip restraint and jet shield design includes the properties and characteristics of procured components connected to the piping, components, and walls at identified break and target locations. The design will be completed prior to installation of the piping and connected components.</p> <p>The as-built reconciliation of the pipe rupture hazards evaluation whip restraint and jet shield design in accordance with the criteria outlined in DCD Subsections 3.6.1.3.2 and 3.6.2.5 will be completed prior to fuel load (in accordance with DCD Tier 1 Table 3.3-6, item 8).</p> <p>This COL item is also addressed in Subsection 14.3.3.</p>
HAR-015	HAR	PT02	FSAR 03	0.3.07.01.01.02	Editorial - Correct reference to DCD	COLA Part 2, FSAR Chapter 3, Subsection 3.7.1.1.2, last paragraph, last sentence will be revised "DCD Subsection 2.5.2.3" to read "DCD Appendix 3G."
7788	STD	PT02	FSAR 03	03.08.03.07	VEGP-VOL-Ch03 SIP response to STD COL 03.08-005 item 5 SNC Ltr ND-10-1594	<p>5. COLA Part 2, FSAR Chapter 3, will be revised to add new Subsection 3.8.3.7 (with an LMA of STD COL 3.8-5) to read:</p> <p>3.8.3.7 In-Service Testing and Inspection Requirements</p> <p>Replace the existing DCD statement with the following:</p> <p>The inspection program for structures is identified in Section 17.6. This inspection program is consistent with the requirements of 10 CFR 50.65 and the guidance in Regulatory Guide 1.160.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7789	STD	PT02	FSAR 03	03.08.04.07	VEGP-VOL-Ch03 SIP response to STD COL 03.08-005 item 6 SNC Ltr ND-10- 1594	<p>6. COLA Part 2, FSAR Chapter 3, will be revised to add new Subsection 3.8.4.7 (with an LMA of STD COL 3.8-5) to read:</p> <hr/> <p>3.8.4.7 Testing and In-Service Inspection Requirements</p> <hr/> <p>Replace the existing DCD final statement of the subsection with the following:</p> <p>The inspection program for structures is identified in Section 17.6. This inspection program is consistent with the requirements of 10 CFR 50.65 and the guidance in Regulatory Guide 1.160.</p>
7790	STD	PT02	FSAR 03	03.08.05.07	VEGP-VOL-Ch03 SIP response to STD COL 03.08-005 item 7 SNC Ltr ND-10- 1594	<p>7. COLA Part 2, FSAR Chapter 3, will be revised to add new Subsection 3.8.5.7 (with an LMA of STD COL 3.8-5) to read:</p> <hr/> <p>3.8.5.7 In-Service Testing and Inspection Requirements</p> <hr/> <p>Replace the existing DCD first statement with the following:</p> <p>The inspection program for structures is identified in Section 17.6. This inspection program is consistent with the requirements of 10 CFR 50.65 and the guidance in Regulatory Guide 1.160.</p>
7791	STD	PT02	FSAR 03	03.08.06.05	VEGP-VOL-Ch03 SIP response to STD COL 03.08-005 item 8 SNC Ltr ND-10- 1594	<p>8. COLA Part 2, FSAR Chapter 3, will be revised to add new Subsection 3.8.6.5 (with an LMA of STD COL 3.8-5) to read:</p> <hr/> <p>3.8.6.5 Structures Inspection Program</p> <hr/> <p>This item is addressed in Subsections 3.8.3.7, 3.8.4.7, 3.8.5.7, and 17.6.</p>
7936	STD	PT 02	FSAR 03	03.08.06.06	VEGP-VOL-CH03 Const Procedures response to STD- COL-03.08-006 item 2 SNC Ltr ND-10- 1900	<p>2. COLA Part 2, FSAR Chapter 3, will be revised to add new Subsection 3.8.6.6 (with an LMA of STD COL 3.8-6) to read:</p> <hr/> <p>3.8.6.6 Construction Procedures Program</p> <hr/> <p>Add the following to the end of Subsection 3.8.6.6:</p> <p>Construction and inspection procedures for concrete filled steel plate modules address activities before and after concrete placement, use of construction mock-ups, and inspection of modules before and after concrete placement as discussed in DCD Subsection 3.8.4.8. The procedures will be made available to NRC inspectors prior to use.</p>
7759	STD	PT02	FSAR 03	03.09.03.01.02	RAI LTR 057 response to RAI 03.12-002 (SNC LTR ND-10-1263 and ND- 10-1501), Item 2	<p>COLA Part 2, FSAR Chapter 3, Subsection 3.9.3.1.2, will be revised under the heading of General, from:</p> <p>The pressurizer surge line is monitored at the first AP1000 plant to record temperature distributions and thermal displacements of the surge line piping, as well as pertinent plant parameters. This monitoring occurs during the hot functional testing and first fuel cycle. The resulting monitoring data is evaluated to verify that the pressurizer surge line is within the bounds of the analytical temperature distributions and displacements. The pressurizer surge line monitoring activities include the following methodology and requirements:</p> <p>To read:</p> <p>The pressurizer surge line is monitored at the first AP1000 plant to record temperature distributions and thermal displacements of the surge line piping, as well as pertinent plant parameters. This monitoring occurs during the hot functional testing and first fuel cycle. The resulting monitoring data is evaluated to verify that the pressurizer surge line is within the bounds of the analytical temperature distributions and displacements.</p> <p>Subsequent AP1000 plants (after the first AP1000 plant) confirm that the heatup and cooldown procedures are consistent with the pertinent attributes of the first AP1000 plant surge line monitoring. In addition, changes to the heatup and cooldown procedures consider the potential impact on stress and fatigue analyses consistent with the concerns of NRC Bulletin 88-11.</p> <p>The pressurizer surge line monitoring activities include the following methodology and requirements:</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7762	STD	PT02	FSAR 03	03.09.03.01.02	VEGP-RAI-LTR 057 S1 response to RAI 03.12-002 item 5 SNC Ltr ND-10-1501	5. COLA Part 2, FSAR Chapter 3, Subsection 3.9.3.1.2, will be revised under the heading of Locations to be Monitored, to read: In addition to the existing permanent plant temperature instrumentation, temperature and displacement monitoring will be included at critical locations on the surge line. The additional locations utilized for monitoring during the hot functional testing and the first fuel cycle (see Subsection 14.2.9.2.22) are selected based on the capability to provide effective monitoring.
6522	STD	PT02	FSAR 03	03.09.06.02.02	Superseded by CH 3 OI response in SNC Letter 10-0393 (Qb 10-0393) CH 3 OI response in SNC Letter 09-2015	Revise the last sentence of the third bulleted paragraph following the paragraph in FSAR Section 3.9.6.2.2 containing subheading "Other Power-Operated Valve Operability Tests" from: • Periodic static testing is performed, at a minimum on high risk (high safety significance) valves, to identify potential degradation, unless those valves are periodically cycled during normal plant operation, under conditions that meet or exceed the worst case operating conditions within the licensing basis of the plant for the valve, which would provide adequate periodic demonstration of AOV capability. If the margin between component capability and design-basis requirements has not been previously determined, dynamic testing will be performed to establish a baseline and to determine these margins. To read: • Periodic static testing is performed, at a minimum on high risk (high safety significance) valves, to identify potential degradation, unless those valves are periodically cycled during normal plant operation, under conditions that meet or exceed the worst case operating conditions within the licensing basis of the plant for the valve, which would provide adequate periodic demonstration of AOV capability. If required, based on valve qualification or operating experience, periodic dynamic testing is performed to re-verify the capability of the valve to perform its required functions.
Qb 10-0393	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S3 response to OI 03.09.002 (SNC Ltr ND-10-0393)	Revise the last sentence of the third bulleted paragraph following the paragraph in FSAR Section 3.9.6.2.2 containing subheading "Other Power-Operated Valve Operability Tests" from: • Periodic static testing is performed, at a minimum on high risk (high safety significance) valves, to identify potential degradation, unless those valves are periodically cycled during normal plant operation, under conditions that meet or exceed the worst case operating conditions within the licensing basis of the plant for the valve, which would provide adequate periodic demonstration of AOV capability. If the margin between component capability and design-basis requirements has not been previously determined, dynamic testing will be performed to establish a baseline and to determine these margins. To read: • Periodic static testing is performed, at a minimum on high risk (high safety significance) valves, to identify potential degradation, unless those valves are periodically cycled during normal plant operation, under conditions that meet or exceed the worst case operating conditions within the licensing basis of the plant for the valve, which would provide adequate periodic demonstration of AOV capability. If required based on valve qualification or operating experience, periodic dynamic testing is performed to re-verify the capability of the valve to perform its required functions.
6521	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 response to OI 03.09-04 (SNC Ltr ND-09-2015)	Revise the last sentence of the third paragraph following the paragraph in FSAR Subsection 3.9.6.2.2 containing subheading "Other Power-Operated Valve Operability Tests" to read: ... The AOV program incorporates the attributes for a successful power-operated valve long-term periodic verification program, as discussed in Regulatory Issue Summary 2000-03, Resolution of Generic Safety Issue 158: Performance of Safety-Related Power-Operated Valves Under Design Basis Conditions, by incorporating lessons learned from previous nuclear power plant operations and research programs as they apply to the periodic testing of air-and other power-operated valves included in the IST program. For example, key lessons learned addressed in the AOV program include:
6523	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 response to OI 03.09-04 (SNC Ltr ND-09-2015)	(b) Revise the sixth bulleted paragraph following the paragraph in FSAR Subsection 3.9.6.2.2 containing subheading "Other Power-Operated Valve Operability Tests" to read: • Post-maintenance procedures include appropriate instructions and criteria to ensure baseline testing is re-performed as necessary when maintenance on the valve, repair or replacement, have the potential to affect valve functional performance.
6524	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 response to OI 03.09-04 (SNC Ltr ND-09-2015)	Add the paragraph below as the last paragraph of FSAR Subsection 3.9.6.2.2 prior to the subheading "Check Valve Tests": The attributes of the AOV testing program described above, to the extent that they apply to and can be implemented on other safety-related power-operated valves, such as electro-hydraulic valves, are applied to those other power-operated valves.
8456	STD	PT02	FSAR03	03.09.06.02.02	Editorial addition of LMA for material added via COL-SER-OI-Ch03 response to OI 03.09-04 (SNC Ltr ND-09-2015)	Add LMA of STD COL 3.9-4 to the text added in Revision 3 shown below... =====
						Add the paragraph below as the last paragraph of FSAR Subsection 3.9.6.2.2 prior to the subheading "Check Valve Tests": The attributes of the AOV testing program described above, to the extent that they apply to and can be implemented on other safety-related power-operated valves, such as electro-hydraulic valves, are applied to those other power-operated valves.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
6982	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S3 response to OI 03.09.002 (c) item 1 (SNC Ltr ND-10-0393)	<p>(c) (1) COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.2.2, will be revised as follows:</p> <p>(a) Revise the third FSAR change item (for clarity) from:</p> <p>Add the following as a new last paragraph under the heading "Manual/Power-Operated Valve Tests":</p> <p>During valve exercise tests, the necessary valve obturator movement is determined while observing an appropriate direct indicator, such as indicating lights that signal the required changes of obturator position, or by observing other evidence or positive means, such as changes in system pressure, flow, level, or temperature that reflects change of obturator position.</p> <p>To read:</p> <p>Add the following paragraph after the fifth paragraph under the heading "Manual/Power-Operated Valve Tests":</p> <p>During valve exercise tests, the necessary valve obturator movement is verified while observing an appropriate direct indicator, such as indicating lights that signal the required changes of obturator position, or by observing other evidence or positive means, such as changes in system pressure, flow, level, or temperature that reflects change of obturator position.</p>
6982	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S3 response to OI 03.09.002 (c) item 1 (SNC Ltr ND-10-0393)	<p>(b) Revise the fourth FSAR change item in Subsection 3.9.6.2.2 from:</p> <p>Add the following at the end of the last sentence of the paragraph containing the subheading "Power-Operated Valve Operability Tests" in DCD Subsection 3.9.6.2.2:</p> <p>, and for motor-operated valves the JOG MOV PV study (Reference 201) and ASME Code Case OMN-1, Revision 1 (Reference 202).</p> <p>Table 13.4-201 provides milestones for the MOV program implementation.</p> <p>To read:</p> <p>Add the following sentence as the last sentence of the paragraph containing the subheading "Power-Operated Valve Operability Tests" in DCD Subsection 3.9.6.2.2:</p> <p>Table 13.4-201 provides the milestones for the MOV program implementation.</p>
6982	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S3 response to OI 03.09.002 (c) item 1 (SNC Ltr ND-10-0393)	<p>(c) Delete the fifth FSAR change item in Subsection 3.9.6.2.2 that reads:</p> <p>Revise the first sentence of the second paragraph under the paragraph with subheading "PowerOperated Valve Operability Tests" in DCD Subsection 3.9.6.2.2 to read as follows:</p> <p>Static and dynamic testing with diagnostic measurements will be performed on these valves as described below.</p> <p>(d) Revise the sixth FSAR change item in Subsection 3.9.6.2.2, as follows:</p> <p>From the current text:</p> <p>Insert the following as the last sentence in the paragraph under the bulleted item titled "Risk Ranking" in DCD Subsection 3.9.6.2.2:</p> <p>Guidance for this process is outlined in the JOG MOV PV Study, MPR-2524-A (Reference 201).</p> <p>To read as follows:</p> <p>Insert the following as the last sentence in the paragraph under the bulleted item titled "Risk Ranking" in DCD Subsection 3.9.6.2.2:</p> <p>Guidance for this process is outlined in the JOG MOV PV Study, MPR-2524-A</p>
6982	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S3 response to OI 03.09.002 (c) item 1 (SNC Ltr ND-10-0393)	<p>(e) Revise COLA Subsection 3.9.6.2.2 paragraph beginning with the subheading "Other Power-Operated Valve Operability Tests":</p> <p>From:</p> <p>Other Power-Operated Valve Operability Tests -Power-Operated valves other than active MOVs are exercised quarterly in accordance with ASME OM ISTC, unless justification is provided in the inservice testing program for testing these valves at other than Code mandated frequencies. Active and passive power-operated valves upon which operability testing may be performed are identified in DCD Table 3.9-16.</p> <p>To read:</p> <p>Other Power-Operated Valve Operability Tests -Power-Operated valves other than active MOVs are exercised quarterly in accordance with ASME OM ISTC, unless justification is provided in the inservice testing program for testing these valves at other than Code mandated frequencies.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
6984	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S3 response to OI 03.09.002 (c) item 2 (SNC Ltr ND-10-0393)	<p>(2) DCD Chapter 3, Subsection 3.9.6.2.2, will be revised in COLA Subsection 3.9.6.2.2 as follows to address COL Information Item 3.9-4:</p> <p>NOTE: The following changes are in consideration of and in addition to the changes made by Westinghouse in their responses to DCD SER Open Items on Section 3.9.6.</p> <p>(a) Insert new second sentence of the paragraph containing the subheading "PowerOperated Valve Operability Tests" in DCD Subsection 3.9.6.2.2 (immediately following the first sentence of the DCD paragraph) that reads:</p> <p style="padding-left: 40px;">The POVs include the motor-operated valves.</p> <p>Such that the first two sentences under Power-Operated Valve Operability Tests would now read:</p> <p>Power-Operated Valve Operability Tests -The safety-related, power-operated valves (POVs) are required by the procurement specifications to have the capabilities to perform diagnostic testing to verify the capability of the valves to perform their design basis safety functions. The POVs include the motor-operated valves.</p> <p>(b) Add the left margin annotation "STD COL 3.9-4" for the above change.</p>
6985	STD	PT02	FSAR 03	03.09.06.02.02	Superseded by Qb 7179 COL-SER-OI-Ch03 S3 response to OI 03.09.003 (f) item 1 (SNC Ltr ND-10-0393)	<p>(f) COLA Subsection 3.9.6.2.2 will be revised as follows:</p> <p>(1) Revise the COLA insert entitled "Active MOV Test Frequency Determination" to read:</p> <p>Active MOV Test Frequency Determination -The ability of a valve to meet its design basis functional requirements (ie. required capability) is verified during valve qualification testing as required by procurement specifications. Valve qualification testing measures valve actuator actual output capability. The actuator output capability is compared to the valve's required capability defined in procurement specifications, establishing functional margin; that is, that increment by which the MOV's actual output capability exceeds the capability required to operate the MOV under design basis conditions. DCD Subsection 5.4.8 discusses valve functional design and qualification requirements. The initial inservice test frequency is determined as required by ASME OM Code Case OMN-1, Revision 1 (Reference 202). The design basis capability testing of MOVs utilizes guidance from Generic Letter 96-05 and the JOG MOV Periodic Verification PV study, MPR 2524-A. Valve functional margin is evaluated following subsequent periodic testing to address potential time related performance degradation, accounting for applicable uncertainties in the analysis. If the evaluation shows that the functional margin will be reduced to less than established acceptance criteria within the established test interval, the test interval is decreased to less than the time for the functional margin to decrease below acceptance criteria. If there is not sufficient data to determine test frequency as described above, the test frequency is limited to not exceed two (2) refueling cycles or three (3) years, whichever is longer, until sufficient data exist to extend the test frequency. Appropriate justification is provided for any increased test interval, and the maximum test interval shall not exceed 10 years. This is to ensure that each MOV in the IST program will have adequate margin (including consideration for aging-related degradation, degraded voltage, control switch repeatability, and load-sensitive MOV behavior) to remain operable until the next scheduled test, regardless of its risk categorization or safety significance. Uncertainties associated with performance of these periodic verification tests and use of the test results (including those associated with measurement equipment and potential degradation mechanisms) are addressed appropriately. Uncertainties may be considered in the specification of acceptable valve setup parameters or in the interpretation of the test results (or a combination of both). Uncertainties affecting both valve function and structural limits are addressed.</p>
6986	STD	PT02	FSAR 03	03.09.06.02.02	Superseded by Qb 7179 COL-SER-OI-Ch03 S3 response to OI 03.09.003 (f) item 2 (SNC Ltr ND-10-0393)	<p>(f) COLA Subsection 3.9.6.2.2 will be revised as follows:</p> <p>(2) Add the following paragraph following the paragraph with the heading "Active MOV Test Frequency Determination":</p> <p>Maximum torque and/or thrust (as applicable) achieved by the MOV (allowing sufficient margin for diagnostic equipment inaccuracies and control switch repeatability) are established so as not to exceed the allowable structural and undervoltage motor capability limits for the individual parts of the MOV.</p>
6987	STD	PT02	FSAR 03	03.09.06.02.02	Superseded by Qb 7179 COL-SER-OI-Ch03 S3 response to OI 03.09.003 (f) item 3 (SNC Ltr ND-10-0393)	<p>(f) COLA Subsection 3.9.6.2.2 will be revised as follows:</p> <p>(3) Insert the following paragraph as the last paragraph under the sub-heading of "Other PowerOperated Valve Operability Tests" (following the previously added paragraph) and just before the sub-heading "Check Valve Tests" in DCD Subsection 3.9.6.2.2:</p> <p>Successful completion of the preservice and IST of MOVs, in addition to MOV testing as required by 10 CFR 50.55a, demonstrates that the following criteria are met for each valve tested: (i) valve fully opens and/or closes as required by its safety function; (ii) adequate margin exists and includes consideration of diagnostic equipment inaccuracies, degraded voltage, control switch repeatability, load-sensitive MOV behavior, and margin for degradation; and (iii) maximum torque and/or thrust (as applicable) achieved by the MOV (allowing sufficient margin for diagnostic equipment inaccuracies and control switch repeatability) does not exceed the allowable structural and undervoltage motor capability limits for the individual parts of the MOV</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7179	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S7 response to OI 03.09-03(f) SNC Ltr ND-10-0949	<p>COLA Subsection 3.9.6.2.2 will be revised as follows:</p> <p>(1) Revise the COLA insert entitled "Active MOV Test Frequency Determination" to read:</p> <p>Active MOV Test Frequency Determination -The ability of a valve to meet its design basis functional requirements (i.e. required capability) is verified during valve qualification testing as required by procurement specifications. Valve qualification testing measures valve actuator actual output capability. The actuator output capability is compared to the valve's required capability defined in procurement specifications, establishing functional margin; that is, that increment by which the MOV's actual output capability exceeds the capability required to operate the MOV under design basis conditions. DCD Subsection 5.4.8 discusses valve functional design and qualification requirements. The initial inservice test frequency is determined as required by ASME OM Code Case OMN-1, Revision 1 (Reference 202). The design basis capability testing of MOVs utilizes guidance from Generic Letter 96-05 and the JOG MOV Periodic Verification PV Program. Valve functional margin is evaluated following subsequent periodic testing to address potential time-related performance degradation, accounting for applicable uncertainties in the analysis. If the evaluation shows that the functional margin will be reduced to less than established acceptance criteria within the established test interval, the test interval is decreased to less than the time for the functional margin to decrease below acceptance criteria. If there is not sufficient data to determine test frequency as described above, the test frequency is limited to not exceed two (2) refueling cycles or three (3) years, whichever is longer, until sufficient data exist to extend the test frequency. Appropriate justification is provided for any increased test interval, and the maximum test interval shall not exceed 10 years. This is to ensure that each MOV in the 1ST program will have adequate margin (including consideration for aging-related degradation, degraded voltage, control switch repeatability, and load-sensitive MOV behavior) to remain operable until the next scheduled test, regardless of its risk categorization or safety significance. Uncertainties associated with performance of these periodic verification tests and use of the test results (including those associated with measurement equipment and potential degradation mechanisms) are addressed appropriately. Uncertainties may be considered in the specification of acceptable valve setup parameters or in the interpretation of the test results (or a combination of both). Uncertainties affecting both valve function and structural limits are addressed.</p> <p>(2) Add the following paragraph following the paragraph with the heading "Active MOV Test Frequency Determination":</p> <p>Maximum torque and/or thrust (as applicable) achieved by the MOV (allowing sufficient margin for diagnostic equipment inaccuracies and control switch repeatability) are established so as not to exceed the allowable structural and undervoltage</p> <p>(3) Insert the following paragraph as the last paragraph under the sub-heading of "PowerOperated Valve Operability Tests" (following the previously added paragraph) and just before the sub-heading "Check Valve Tests" in DCD Subsection 3.9.6.2.2:</p> <p>Successful completion of the preservice and IST of MOVs, in addition to MOV testing as required by 10 CFR 50.55a, demonstrates that the following criteria are met for each valve tested: (i) valve fully opens and/or closes as required by its safety function; (ii) adequate margin exists and includes consideration of diagnostic equipment inaccuracies, degraded voltage, control switch repeatability, load-sensitive MOV behavior, and margin for degradation; and (iii) maximum torque and/or thrust (as applicable) achieved by the MOV (allowing sufficient margin for diagnostic equipment inaccuracies and control switch repeatability) does not exceed the allowable structural and undervoltage motor capability limits for the individual parts of the MOV.</p>
7186	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S7 response to OI 03.09-002(c) item 1 SNC Ltr ND-10-0949	<p>(1) COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.2.2, will be revised as follows:</p> <p>(i) Revise the third roadmap (for clarity) to read:</p> <p>Add the following paragraph after the fifth paragraph under the heading "Manual/Power-Operated Valve Tests": During valve exercise tests, the necessary valve obturator movement is verified while observing an appropriate direct indicator, such as indicating lights that signal the required changes of obturator position, or by observing other evidence or positive means, such as changes in system pressure, flow, level, or temperature that reflects change of obturator position.</p>
7187	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S7 response to OI 03.09-002(c) item 1 SNC Ltr ND-10-0949	<p>(1) COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.2.2, will be revised as follows:</p> <p>(ii) Revise the fourth insert in Subsection 3.9.6.2.2, and the roadmap, from:</p> <p>Add the following at the end of the last sentence of the paragraph containing the subheading "Power-Operated Valve Operability Tests" in DCD Subsection 3.9.6.2.2:</p> <p>, and for motor-operated valves the JOG MOV PV study (Reference 201) and ASME Code Case OMN-1 Revision 1 (Reference 202).</p> <p>Table 13.4-201 provides milestones for the MOV program implementation.</p> <p>To read:</p> <p>Add the following sentence as the last sentence of the paragraph containing the subheading "Power-Operated Valve Operability Tests" in DCD Subsection 3.9.6.2.2:</p> <p>Table 13.4-201 provides the milestones for the MOV program implementation.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7188	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S7 response to OI 03.09-002(c) item 1 SNC Ltr ND-10-0949	(1) COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.2.2, will be revised as follows: (iii) Delete the fifth COLA insert and roadmap in Subsection 3.9.6.2.2 that reads: Revise the first sentence of the second paragraph under the paragraph with subheading "PowerOperated Valve Operability Tests" in DCD Subsection 3.9.6.2.2 to read as follows: Static and dynamic testing with diagnostic measurements will be performed on these valves as described below.
7189	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S7 response to OI 03.09-002(c) item 1 SNC Ltr ND-10-0949	(1) COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.2.2, will be revised as follows: (iv) Revise the sixth COLA insert in Subsection 3.9.6.2.2 to read: Insert the following as the last sentence in the paragraph under the bulleted item titled "Risk Ranking" in DCD Subsection 3.9.6.2.2: Guidance for this process is outlined in the JOG MOV PV Study, MPR-2524-A
7190	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S7 response to OI 03.09-002(c) item 1 SNC Ltr ND-10-0949	(1) COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.2.2, will be revised as follows: (v) Revise COLA Subsection 3.9.6.2.2 paragraph beginning with the subheading "Other Power-Operated Valve Operability Tests," to read: Other Power-Operated Valve Operability Tests -Power-Operated valves other than active MOVs are exercised quarterly in accordance with ASME OM ISTC, unless justification is provided in the inservice testing program for testing these valves at other than Code mandated frequencies.
7191	STD	PT02	FSAR 03	03.09.06.02.02	COL-SER-OI-Ch03 S7 response to OI 03.09-002(c) item 2 SNC Ltr ND-10-0949	(2) DCD Chapter 3, Subsection 3.9.6.2.2, will be revised in COLA Subsection 3.9.6.2.2 as follows to address COL Information Item 3.9-4: NOTE: The following changes are in consideration of and in addition to the changes made by Westinghouse in their responses to DCD SER Open Items on Section 3.9.6. (i) Insert new second sentence of the paragraph containing the subheading "PowerOperated Valve Operability Tests" in DCD Subsection 3.9.6.2.2 (immediately following the first sentence of the DCD paragraph) to read: Power-Operated Valve Operability Tests -The safety-related, power-operated valves (POVs) are required by the procurement specifications to have the capabilities to perform diagnostic testing to verify the capability of the valves to perform their design basis safety functions. The POVs include the motor-operated valves. (ii) Add the left margin annotation "STD COL 3.9-4" for the above change.
7127	STD	PT02	FSAR 03	03.09.06.02.02	VEGP RAI LTR 056 response to RAI 03.09.06-001 SNC ND-10-0993	COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.2.2, will be revised to include the following new paragraph with a left margin annotation (LMA) of STD COL 3.9-4: Add the following new paragraph under the heading "Other Valve Inservice Tests" following the Explosively Actuated Valves paragraph in DCD Subsection 3.9.6.2.2: Industry and regulatory guidance is considered in development of the IST program for squib valves. In addition, the IST program for squib valves incorporate lessons learned from the design and qualification process for these valves such that surveillance activities provide reasonable assurance of the operational readiness of squib valves to perform their safety functions.
6980	STD	PT02	FSAR 03	03.09.06.03	SUPERSEDED by 7182 - COL-SER-OI-Ch03 S3 response to OI 03.09.002 (b) item 1 (SNC Ltr ND-10-0393)	(b) COLA Part 2, FSAR will be revised as follows: (1) Revise the inserted paragraph of COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.3, Relief Requests, to read: The IST Program described herein utilizes Code Case OMN-1, Revision 1, "Alternative Rules for the Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light Water Reactor Power Plants" (Reference 202). Code Case OMN-1 establishes alternate rules and requirements for preservice and inservice testing to assess the operational readiness of certain motor-operated valves, in lieu of the requirements set forth in ASME OM Code Subsection ISTC. ASME OM Code Case OMN-1, Revision 0 has been conditionally accepted in Regulatory Guide 1.192 (June 2003) with three (3) conditions. ASME Code Case OMN-1, Revision 1 essentially incorporates the conditions invoked by the NRC in Regulatory Guide 1.192 on ASME Code Case OMN-1, Revision 0. Therefore, OMN-1 Revision 1 should satisfy the requirements of the conditions placed on the use of OMN-1 Revision 0 in Regulatory Guide 1.192, and thus provides an equivalent and superior alternative to that in Revision 0 of the Code Case. Additional differences between Revision 0 and 1 of ASME Code Case OMN-1 are in the form of clarifications and the incorporation of the ability to utilize motor control center (MCC) testing.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7182	STD	PT02	FSAR 03	03.09.06.03	COL-SER-OI-Ch03 S7 response to OI 03.09-002(b) item 1 SNC Ltr ND-10-0949	<p>(1) Revise the inserted paragraph of COLA Part 2, FSAR Chapter 3, Subsection 3.9.6.3, Relief Requests, to read:</p> <p>The IST Program described herein utilizes Code Case OMN-1, Revision 1, "Alternative Rules for the Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light Water Reactor Power Plants" (Reference 202). Code Case OMN-1 establishes alternate rules and requirements for preservice and inservice testing to assess the operational readiness of certain motor-operated valves, in lieu of the requirements set forth in ASME OM Code Subsection ISTC.</p> <p>(2) Add new discussion at end of current FSAR Subsection 3.9.6.3 (with the same LMA as the current FSAR Subsection 3.9.6.3) as follows:</p> <p>OMN-I, Alternative Rules for the Preservice and Inservice Testing of Certain MOVs</p> <p>Code Case OMN-1, Revision 1, "Alternative Rules for the Preservice and Inservice Testing of Certain Electric Motor Operated Valve Assemblies in Light Water Reactor Power Plants," establishes alternate rules and requirements for preservice and inservice testing to assess the operational readiness of certain motor-operated valves in lieu of the requirements set forth in OM Code Subsection ISTC. However, Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," June 2003, has not yet endorsed OMN-1, Revision 1.</p> <p>Code Case OMN-1, Revision 0, has been determined by the NRC to provide an acceptable level of quality and safety when implemented in conjunction with the conditions imposed in Regulatory Guide 1.192. NUREG-1482, Revision 1, "Guidelines for Inservice Testing at Nuclear Power Plants," recommends the implementation of OMN-I by all licensees. Revision 1 to OMN-1 represents an improvement over Revision 0, as published in the ASME OM-2004 Code. OMN-I Revision 1 incorporates the guidance on risk-informed testing of MOVs from OMN-11, "Risk-Informed Testing of Motor-Operated Valves," and provides additional guidance on design basis verification testing and functional margin, which eliminates the need for the figures on functional margin and test intervals in Code Case OMN-1.</p> <p>The IST Program implements Code Case OMN-1, Revision 1, in lieu of the stroke-time provisions specified in ISTC-5120 for MOVs, consistent with the guidelines provided in NUREG-1482, Revision 1, Section 4.2.5.</p> <p>Regulatory Guide 1.192 states that licensees may use Code Case OMN-1, Revision 0, in lieu of the provisions for stroke-time testing in Subsection ISTC of the 1995 Edition up to and including the 2000 Addenda of the ASME OM Code when applied in conjunction with the provisions for leakage rate testing in ISTC-3600 (1998 Edition with the 1999 and 2000 Addenda). Licensees who choose to apply OMN-1 are required to apply all of its provisions. The IST program incorporates the following provisions from Regulatory Guide 1.192:</p> <p>(1) The adequacy of the diagnostic test interval for each motor-operated valve (MOV) is evaluated and adjusted as necessary, but not later than 5 years or three refueling outages (whichever is longer) from initial implementation of OMN-1.</p> <p>(2) The potential increase in CDF and risk associated with extending high risk MOV test intervals beyond quarterly is determined to be small and consistent with the intent of the Commission's Safety Goal Policy Statement.</p> <p>(3) Risk insights are applied using MOV risk ranking methodologies accepted by the NRC on a plant-specific or industry-wide basis, consistent with the conditions in the applicable safety evaluations.</p> <p>(4) Consistent with the provisions specified for Code Case OMN-11 the potential increase in CDF and risk associated with extending high risk MOV test intervals beyond quarterly is determined to be small and consistent with the intent of the Commission's Safety Goal Policy Statement.</p> <p>Compliance with the above items is addressed in Section 3.9.6.2.2. Code Case OMN-1, Revision 1, is considered acceptable for use with OM Code-2001 Edition with 2003 Addenda. Finally, consistent with Regulatory Guide 1.192, the benefits of performing any particular test are balanced against the potential adverse effects placed on the valves or systems caused by this testing.</p>
7183	STD	PT02	FSAR 03	03.09.06.03	COL-SER-OI-Ch03 S7 response to OI 03.09-002(b) item 2 SNC Ltr ND-10-0949	<p>3. COLA Part 2, FSAR Chapter 3, Subsection 3.9.8.2, will be revised to read:</p> <p>Add the following text after the second paragraph in DCD Subsection 3.9.8.2.</p> <p>Design specifications and design reports for ASME Section III piping are made available for NRC review. The availability of the design reports is identified to the NRC. Reconciliation of the as-built piping (verification of the thermal cycling and stratification loading considered in the stress analysis discussed in DCD Subsection 3.9.3.1.2) is completed by the COL holder after the construction of the piping systems and prior to fuel load (in accordance with DCD Tier 1 Section 2 IT AAC line items for the applicable systems).</p>
7021	STD	PT02	FSAR 03	03.09.08.02	Superseded by COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 3 COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 3 (SNC Ltr ND-10-0585)	<p>3. COLA Part 2, FSAR Chapter 3, Subsection 3.9.8.2, will be revised to read:</p> <p>Add the following text after the second paragraph in DCD Subsection 3.9.8.2.</p> <p>Design specifications and design reports for ASME Section III piping are made available for NRC review. Reconciliation of the as-built piping (verification of the thermal cycling and stratification loading considered in the stress analysis discussed in DCD Subsection 3.9.3.1.2) is completed by the COL holder after the construction of the piping systems and prior to fuel load (in accordance with DCD Tier 1 Section 2 ITAAC line items for the applicable systems).</p>
7070	STD	PT02	FSAR 03	03.09.08.02	COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 3 (SNC Ltr ND-10-0801)	<p>3. COLA Part 2, FSAR Chapter 3, Subsection 3.9.8.2, will be revised to read:</p> <p>Add the following text after the second paragraph in DCD Subsection 3.9.8.2.</p> <p>Design specifications and design reports for ASME Section III piping are made available for NRC review. Reconciliation of the as-built piping (verification of the thermal cycling and stratification loading considered in the stress analysis discussed in DCD Subsection 3.9.3.1.2) is completed by the COL holder after the construction of the piping systems and prior to fuel load (in accordance with DCD Tier 1 Section 2 ITAAC line items for the applicable systems).</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7530	STD	PT02	FSAR 03	03.09.08.05	RAI LTR 057 response to RAI 03.12-002 (SNC LTR ND-10-1263 and ND-10-1501), Item 3	COLA Part 2, FSAR Chapter 3, Subsection 3.9.8.5, will be revised from: This COL item is addressed in Subsection 3.9.3.1.2. To read: This COL item is addressed in Subsection 3.9.3.1.2 and Subsection 14.2.9.2.22.
7022	STD	PT02	FSAR 03	03.09.08.07	Superseded by COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 4 COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 4 (SNC Ltr ND-10-0585)	4. COLA Part 2, FSAR Chapter 3, Subsection 3.9.8.7, will be added to read: 3.9.8.7 As-Designed Piping Analysis Add the following text at the end of DCD Subsection 3.9.8.7. The as-designed piping analysis is provided for the piping lines chosen to demonstrate all aspects of the piping design. A design report referencing the as-designed piping calculation packages, including ASME Section III piping analysis, support evaluations and piping component fatigue analysis for Class 1 piping using the methods and criteria outlined in DCD Table 3.9-19 is made available for NRC review. The availability of the piping design information and design reports is identified to the NRC. This COL item is also addressed in Subsection 14.3.3.
7071	STD	PT02	FSAR 03	03.09.08.07	COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 4 (SNC Ltr ND-10-0801)	4. COLA Part 2, FSAR Chapter 3, Subsection 3.9.8.7, will be added to read: 3.9.8.7 As-Designed Piping Analysis Add the following text at the end of DCD Subsection 3.9.8.7. The as-designed piping analysis is provided for the piping lines chosen to demonstrate all aspects of the piping design. A design report referencing the as-designed piping calculation packages, including ASME Section III piping analysis, support evaluations and piping component fatigue analysis for Class 1 piping using the methods and criteria outlined in DCD Table 3.9-19 is made available for NRC review. This COL item is also addressed in Subsection 14.3.3.
6981	STD	PT02	FSAR 03	03.09.09	COL-SER-OI-Ch03 S7 response to OI 03.09-002(b) item 3 SNC Ltr ND-10-0949	(b) COLA Part 2, FSAR will be revised as follows: (2) Revise Subsection 3.9.9, REFERENCES, as follows: From: 201. Joint Owners Group (JOG) Motor Operated Valve Periodic Verification Program Summary, MPR 2524-A, ADAMS ML063490199, November 2006. To read: 201. Not used.
3950	STD	PT02	FSAR 03	03.09.09	COL-SER-OI-Ch03 S3 response to OI 03.09-002(b) item 3 SNC Ltr ND-10-0393	(2) Revise Subsection 3.9.9, REFERENCES, to read: 201. Not used.
HAR-098	HAR	PT02	FSAR 03	03.09.T / T3.9-201	ERRATA	Revise System Snubber (Hanger) No. SGS APP-SGS-PH-11Y0065 from "005B" to "L005B".
Chapter 4						
No Change						
Chapter 5						
7802	STD	PT02	FSAR05	05.02.04.01	VEGP-VOL-CH05 ISI response to STD COL 05.03-007 item 2 SNC Ltr ND-10-1656	2. COLA Part 2, FSAR Chapter 5, will be revised to add the following new paragraph at the end of the portion of Subsection 5.2.4.1 with an LMA of STD COL 5.3-7, to read: The in-service inspection program is augmented to include the performance of a 100 percent volumetric examination of the weld build-up on the reactor vessel head for the instrumentation penetrations (Quickloc) conducted once during each 120-month inspection interval in accordance with the ASME Code, Section XI. The weld build-up acceptance standards are those provided in ASME Code, Section XI, IWB-3514. Personnel performing examinations and the ultrasonic examination systems are qualified in accordance with ASME Code, Section XI, Appendix VIII. Alternatively, an alternative inspection may be developed in conjunction with the voluntary consensus standards bodies (i.e., ASME) and submitted to the NRC for approval.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7749 (was 4161)	STD	PT02	FSAR05	05.02.05.03.05	VEGP-RAI-LTR-060 in response to RAI 05.02.05-001 item 2 SNC Ltr ND-10-1423	<p>2. COLA Part 2, FSAR Chapter 5, will be revised to add a new Subsection 5.2.5.3.5 (with an LMA of STD COL 5.2-3) to read:</p> <p>-----</p> <p>Add the following new subsection following DCD Subsection 5.2.5.3.4.</p> <p>5.2.5.3.5 Response to Reactor Coolant System Leakage</p> <p>Operating procedures specify operator actions in response to prolonged low level unidentified reactor coolant leakage conditions that exist above normal leakage rates and below the Technical Specification (TS) limits to provide operators sufficient time to take action before the TS limit is reached. The procedures include identifying, monitoring, trending, and addressing prolonged low level leakage. The procedures for effective management of leakage, including low level leakage, are developed including the following operations related activities:</p> <ul style="list-style-type: none"> • Trends in the unidentified leakage rates are periodically analyzed. When the leakage rate increases noticeably from the baseline leakage rate, the safety significance of the leak is evaluated. The rate of increase in the leakage is determined to verify that plant actions can be taken before the plant exceeds TS limits. • Procedures are established for responding to leakage. These procedures address the following considerations to prevent adverse safety consequence results from the leakage: <ul style="list-style-type: none"> - Plant procedures specify operator actions in response to leakage rates less than the limits set forth in the Technical Specifications. The procedures include actions for confirming the existence of a leak, identifying its source, increasing the frequency of monitoring, verifying the leakage rate (through a water inventory balance), responding to trends in the leakage rate, performing a walkdown outside containment, planning a containment entry, adjusting alarm setpoints, limiting the amount of time that operation is permitted when the sources of the leakage are unknown, and determining the safety significance of the leakage. - Plant procedures specify the amount of time the leakage detection and monitoring instruments (other than those required by Technical Specifications) may be out of service to effectively monitor the leakage rate during plant operation (i.e., hot shutdown, hot standby, startup, transients, and power operation). • The output and alarms from leakage monitoring systems are provided in the main control room. Procedures are readily available to the operators for converting the instrument output to a common leakage rate. (Alternatively, these procedures may be part of a computer program so that the operators have a real-time indication of the leakage rate as determined from the output of these monitors.) Periodic calibration and testing of leakage monitoring systems are conducted. The alarm(s), and associated setpoint(s), provide operators an early warning signal so that they can take corrective actions, as discussed above, i.e., before the plant exceeds TS limits. • During maintenance and refueling outages, actions are taken to identify the source of any unidentified leakage that was detected during plant operation. In addition, corrective action is taken to eliminate the condition resulting in the leakage. <p>The procedures described above will be available prior to fuel load.</p>
7750 (was 4161)	STD	PT02	FSAR05	05.02.06.03	VEGP-RAI-LTR-060 in response to RAI 05.02.05-001 item 3 SNC Ltr ND-10-1423	<p>3. COLA Part 2, FSAR Chapter 5, will be revised to add a new Subsection 5.2.6.3 (with an LMA of STD COL 5.2-3) to read:</p> <p>-----</p> <p>5.2.6.3 Response to Unidentified Reactor Coolant System Leakage Inside Containment</p> <p>-----</p> <p>This COL item is addressed in Subsection 5.2.5.3.5.</p> <p>COLA Part 2, FSAR Chapter 5, Subsection 5.3.2.6, second paragraph will be revised from:</p> <p>Three metallurgically different materials are prepared from the sections of reactor vessel shell forging are used for test specimens. These include base metal, weld metal and heat affected zone (HAZ) material</p> <p>To read:</p> <p>Three metallurgically different materials prepared from sections of reactor vessel shell forging are used for test specimens. These include base metal, weld metal and heat affected zone (HAZ) material.</p>
HAR-155	STD	PT02	FSAR05	05.03.02.06	Editorial for consistency with R-COLA	<p>Three metallurgically different materials are prepared from the sections of reactor vessel shell forging are used for test specimens. These include base metal, weld metal and heat affected zone (HAZ) material</p> <p>To read:</p> <p>Three metallurgically different materials prepared from sections of reactor vessel shell forging are used for test specimens. These include base metal, weld metal and heat affected zone (HAZ) material.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
						COLA Part 2, FSAR Chapter 5, Subsection 5.3.2.6, third paragraph, first two sentences will be revised from: Base metal test material is manufactured from a secondring forging, either the intermediate shell course, the lower shell course, or the transition ring of the reactor pressure vessel. Selection is based on an evaluation of initial toughness (characterized by the reference temperature (RT _{NDT}) and Upper Shelf Energy (USE)), and the predicted effect of chemical composition (nickel and residual copper) and neutron fluence on the toughness (RT _{NDT} shift and decrease in USE) during reactor operation. To read: Base metal test material is manufactured from a section of ring forging, either the intermediate shell course, the lower shell course, or the transition ring of the reactor pressure vessel. Selection is based on an evaluation of initial toughness (characterized by the reference temperature (RT _{NDT}) and Upper Shelf Energy (USE)), and the predicted effect of chemical composition (nickel and residual copper) and neutron fluence on the toughness (RT _{NDT} shift and decrease in USE) during reactor operation.
HAR-156	STD	PT02	FSAR05	05.03.02.06	Editorial for consistency with R-COLA	
HAR-157	STD	PT02	FSAR05	05.03.02.06	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 5, Subsection 5.3.2.6, third paragraph, last sentence delete the word "the" before "fracture."
HAR-158	STD	PT02	FSAR05	05.03.02.06	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 5, Subsection 5.3.2.6, fourth paragraph, second sentence delete the word "the" before "base." In the sixth sentence revise the word "material" to "materials."
HAR-159	STD	PT02	FSAR05	05.03.02.06	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 5, Subsection 5.3.2.6, seventh paragraph, first sentence add the words "of each" before "of base metal."
						COLA Part 2, FSAR Chapter 5, Subsection 5.3.2.6, ninth paragraph revise from: Tensile test specimens each of the base metal (longitudinal (tangential) and transverse (axial)), weld metal, and HAZ material are provided To permit a sufficient number of tests for accurately establishing the tensile properties for these materials at a minimum of three test temperatures (e.g., ambient, operating and one intermediate temperature) to define the strength of the material. To read: Tensile test specimens each of base metal (longitudinal (tangential) and transverse (axial)), weld metal, and HAZ metal are provided to permit a sufficient number of tests for accurately establishing the tensile properties for these materials at a minimum of three test temperatures (e.g., ambient, operating and one intermediate temperature) to define the strength of the material.
HAR-160	STD	PT02	FSAR05	05.03.02.06	Editorial for consistency with R-COLA	
						3. COLA Part 2, FSAR Chapter 5, will be revised to add new Subsection 5.3.6.6 (with an LMA of STD COL 5.3-7) to read: 5.3.6.6 Quickloc Weld Build-up ISI
7803	STD	PT02	FSAR05	05.03.06.06	VEGP-VOL-CH05 ISI response to STD COL 05.03-007 item 3 SNC Ltr ND-10-1656	This item is addressed in Subsection 5.2.4.1.
Chapter 6						

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7266	STD	PT02	FSAR 06	06.01.02.01.06	Superseded by COL VOL 06.01-002 (SNC LTR ND-10-1264) VEGP-VOL-CH06 response to 06.01-001 SNC Ltr ND-10-0997	<p>COLA Part 2, FSAR Chapter 6, Section 6.1.2.1.6, will be revised (the LMA of STD COL 6.1-2 remains unchanged) to read:</p> <p>To read:</p> <p>Replace the third paragraph under the subsection titled "Service Level I and Service Level III Coatings" within DCD Subsection 6.1.2.1.6 with the following information.</p> <p>During the design and construction phase the coatings program associated with selection, procurement and application of safety related coatings is performed to applicable quality standards. Regulatory Guide 1.54 and ASTM D5144 (Reference 201) form the basis for the coating program.</p> <p>During the operations phase, the coatings program is administratively controlled in accordance with the quality assurance program implemented to satisfy 10 CFR Part 50, Appendix B, and 10 CFR Part 52 requirements. The coatings program provides direction for the procurement, application, inspection, and monitoring of safety related coating systems.</p> <p>Coating system monitoring requirements for the containment coating systems are based on ASTM D5163 (Reference 202), "Standard Guide for Establishing Procedures to Monitor the Performance of Coating Service Level I Coating Systems in an Operating Nuclear Power Plant," and ASTM D7167 (Reference 203), "Standard Guide for Establishing Procedures to Monitor the Performance of Safety-Related Coating Service Level III Lining Systems in an Operating Nuclear Power Plant." Any anomalies identified during coating monitoring are resolved in accordance with applicable quality assurance requirements.</p> <p>Replace the second sentence of the third paragraph under the subsection titled "Service Level II Coatings" within DCD Subsection 6.1.2.1.6 with the following information.</p> <p>Coating system inspection and monitoring requirements for the Service Level II coatings used inside containment will be performed in accordance with a program based on ASTM D5144 (Reference 201), "Standard Guide for Use of Protective Coating Standards in Nuclear Power Plants," and the guidance of ASTM D5163 (Reference 202), "Standard Guide for Establishing Procedures to Monitor the Performance of Coating Service Level I Coating Systems in an Operating Nuclear Power Plant." Any anomalies identified during coating inspection or monitoring are resolved in accordance with applicable quality requirements.</p>
6979	STD	PT02	FSAR 06	06.01.02.01.06	Superseded by VEGP-VOL-CH06 response to 06.01-001 SNC Ltr ND-10-0997 BNL-RAI-LTR-170 response to 06.01-02-02	<p>COLA Part 2, FSAR Chapter 6, Subsection 6.1.2.1.6, will be revised from:</p> <p>During the design and construction phase the coatings program associated with selection, procurement and application of safety related coatings is performed to applicable quality standards. Regulatory Guide 1.54 and ASTM D5144 (Reference 201) form the basis for the coating program. During the operations phase, the coatings program is administratively controlled in accordance with the quality assurance program implemented to satisfy 10 CFR Part 50, Appendix B, and 10 CFR Part 52 requirements. The coatings program provides direction for the procurement, application, and monitoring of safety related coating systems.</p> <p>To read:</p> <p>During the design and construction phase the coatings program associated with selection, procurement and application of safety related coatings is performed to applicable quality standards. The requirements for the coating program are contained in certified drawings and/or standards and specifications controlling the coating processes of the designer (Westinghouse) (these design documents will be available prior to the procurement and application of the coating material by the constructor of the plant). Regulatory Guide 1.54 and ASTM D5144 (Reference 201) form the basis for the coating program.</p> <p>During the operations phase, the coatings program is administratively controlled in accordance with the quality assurance program implemented to satisfy 10 CFR Part 50, Appendix B, and 10 CFR Part 52 requirements. The coatings program provides direction for the procurement, application, and monitoring of safety related coating systems. Prior to initial fuel loading, a consolidated plant coating program will be in place to address procurement, application, and monitoring (maintenance) of those coating system(s) for the life of the plant.</p>
7782 (was 4191)	STD	PT02	FSAR 06	06.01.02.01.06	VEGP-VOL-CH06 Coatings in response to STD COL 06.01-002 SNC Ltr ND-10-1566	<p>COLA Part 2, FSAR Chapter 6, Section 6.1.2.1.6, will be revised to include the following new information after the existing fourth paragraph just after the Service Level I and Service Level III discussions (the LMA of STD COL 6.1-2 remains unchanged):</p> <p>Include a new second paragraph under the subsection titled "Service Level II Coatings" within DCD Subsection 6.1.2.1.6 with the following information.</p> <p>Such safety-related Service Level II coatings used inside containment are procured to the same standards as Service Level I coatings with regard to radiation tolerance and performance under design basis accident conditions as discussed below.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7532	STD	PT02	FSAR 06	06.01.02.01.06	COL VOL 06.01-002 (SNC LTR ND-10-1264)	<p>FSAR Chapter 6, Section 6.1.2.1.6, will be revised from (the last remains unchanged):</p> <p>Replace the third paragraph under the subsection titled "Service Level I and Service Level III Coatings" within DCD Subsection 6.1.2.1.6 with the following information.</p> <p>During the design and construction phase the coatings program associated with selection, procurement and application of safety related coatings is performed to applicable quality standards. Regulatory Guide 1.54 and ASTM D5144 (Reference 201) form the basis for the coating program. During the operations phase, the coatings program is administratively controlled in accordance with the quality assurance program implemented to satisfy 10 CFR Part 50, Appendix B, and 10 CFR Part 52 requirements. The coatings program provides direction for the procurement, application, and monitoring of safety related coating systems.</p> <p>Coating system monitoring requirements for the containment coating systems are based on ASTM D5163 (Reference 202), "Standard Guide for Establishing Procedures to Monitor the Performance of Coating Service Level I Coating Systems in an Operating Nuclear Power Plant," and ASTM D7167 (Reference 203), "Standard Guide for Establishing Procedures to Monitor the Performance of Safety-Related Coating Service Level III Lining Systems in an Operating Nuclear Power Plant." Any anomalies identified during coating monitoring are resolved in accordance with applicable quality assurance requirements. Add the following after the third paragraph of the subsection titled "Service Level II Coatings" within DCD Subsection 6.1.2.1.6.</p> <p>Coating system inspection and monitoring requirements for the Service Level II coatings used inside containment will be performed in accordance with a program based on ASTM D5144 (Reference 201), "Standard Guide for Use of Protective Coating Standards in Nuclear Power Plants" and the guidance of ASTM D5163 (Reference 202), "Standard Guide for Establishing Procedures to Monitor the Performance of Coating Service Level I Coating Systems in an Operating Nuclear Power Plant." Any anomalies identified during coating monitoring are resolved in accordance with applicable quality requirements.</p> <p>To read:</p> <p>Replace the third paragraph under the subsection titled "Service Level I and Service Level III Coatings" within DCD Subsection 6.1.2.1.6 with the following information.</p> <p>During the design and construction phase, the coatings program associated with selection, procurement and application of safety related coatings is performed to applicable quality standards. The requirements for the coatings program are contained in certified drawings and/or standards and specifications controlling the coating processes of the designer (Westinghouse) (these design documents will be available prior to the procurement and application of the coating material by the constructor of the plant). Regulatory Guide 1.54 and ASTM D5144 (Reference 201) form the basis for the coatings program.</p> <p>During the operations phase, the coatings program is administratively controlled in accordance with the quality assurance program implemented to satisfy 10 CFR Part 50, Appendix B, and 10 CFR Part 52 requirements. The coatings program provides direction for the procurement, application, inspection, and monitoring of safety related coating systems. Prior to initial fuel loading, a consolidated plant coatings program will be in place to address procurement, application, and monitoring (maintenance) of those coating system(s) for the life of the plant.</p> <p>Coating system monitoring requirements for the containment coating systems are based on ASTM D5163 (Reference 202), "Standard Guide for Establishing Procedures to Monitor the Performance of Coating Service Level I Coating Systems in an Operating Nuclear Power Plant," and ASTM D7167 (Reference 203), "Standard Guide for Establishing Procedures to Monitor the Performance of Safety-Related Coating Service Level III Lining Systems in an Operating Nuclear Power Plant." Any anomalies identified during coating inspection or monitoring are resolved in accordance with applicable quality assurance requirements.</p> <p>Replace the second sentence of the third paragraph under the subsection titled "Service Level II Coatings" within DCD Subsection 6.1.2.1.6 with the following information.</p> <p>Coating system application, inspection and monitoring requirements for the Service Level II coatings used inside containment will be performed in accordance with a program based on ASTM D5144 (Reference 201), "Standard Guide for Use of Protective Coating Standards in Nuclear Power Plants," and the guidance of ASTM D5163 (Reference 202), "Standard Guide for Establishing Procedures to Monitor the Performance of Coating Service Level I Coating Systems in an Operating Nuclear Power Plant." Any anomalies identified during coating inspection or monitoring are resolved in accordance</p>
7923	STD	PT02	FSAR06	06.01.02.01.06	Correction to remove "safety-related" designation from changes in VEGP-VOL-Ch06 Coatings in response to STD COL 06.01-002 SNC Ltr ND-10-1566.	<p>COLA Part 2, FSAR Chapter 6, Section 6.1.2.1.6, as revised per Qb7782 will be revised to remove the term "safety related" from:</p> <p>Such safety-related Service Level II coatings used inside containment are procured to the same standards as Service Level I coatings with regard to radiation tolerance and performance under design basis accident conditions as discussed below.</p> <p>To read:</p> <p>Such Service Level II coatings used inside containment are procured to the same standards as Service Level I coatings with regard to radiation tolerance and performance under design basis accident conditions as discussed below.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-161	STD	PT02	FSAR06	06.03.08.01	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.3.8.1, second bullet change the word "assure" to "ensure."
HAR-162	STD	PT02	FSAR06	06.03.08.01	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.3.8.1, sixth bullet change the word "and" before "accounting" to "for."
HAR-163	STD	PT02	FSAR06	06.03.08.01	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.3.8.1, tenth bullet change the word "basis" to "bases."
HAR-164	STD	PT02	FSAR06	06.03.08.01	Editorial for consistency with R-COLA	<p>A sampling program is implemented consistent with NEI Guidance Report 04-07, "Pressurized Water Reactor Sump Performance Evaluation Methodology" as supplemented by NRC in the Safety Evaluation by the Office of Nuclear Reactor Regulation Related to NRC Generic Letter 2004-02, Nuclear Energy Institute Guidance Report (Proposed Document Number NEI 04-07), "Pressurized Water Reactor Sump Performance Evaluation Methodology". Latent debris sampling is implemented before startup. The sampling is conducted after containment exit cleanliness inspections to provide reasonable assurance that plant latent debris design bases are met. Sampling frequency and scope may be adjusted based on sampling results. Results are evaluated post-start up and any nonconforming results will be addressed in the Corrective Action Program.</p> <p>To read:</p> <p>A sampling program is implemented consistent with NEI Guidance Report 04-07, "Pressurized Water Reactor Sump Performance Evaluation Methodology" as supplemented by the NRC in the "Safety Evaluation by The Office of Nuclear Reactor Regulation Related to NRC Generic Letter 2004-02, Nuclear Energy Institute Guidance Report (Proposed Document Number NEI 04-07), "Pressurized Water Reactor Sump Performance Evaluation Methodology". Latent debris sampling is implemented before startup. The sampling is conducted after containment exit cleanliness inspections to provide reasonable assurance that the</p>
HAR-165	STD	PT02	FSAR06	06.04.03	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.4.3, second paragraph, first sentence capitalize the first letter in the words "sections," "regulatory" and the letter "c" in "c.5"
HAR-166	STD	PT02	FSAR06	06.04.03	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.4.3, second paragraph, third sentence add the word "the" before "configuration." In the last sentence add the word "of" before "Regulatory."
8442	STD	PT02	FSAR06	06.04.07	Consistency to match the LMAs used in the sections where the item is addressed, particularly 6.4.4	COLA Part 2, FSAR Chapter 6, Subsection 6.4.7 is revised to include an additional LMA of STD COL 6.4-1.
7808	STD	PT02	FSAR06	06.04.T/T6.4-201	VEGP-RAI LTR 061 response to RAI 06.04-005 item 4 SNC Ltr ND-10-1721	4. COLA Part 2, FSAR Chapter 6, Section 6.4, Table 6.4-201, will be revised to change the footnote for MCR to read: MCR -Chemicals with an Impact Evaluation designation of "MCR" indicates the evaluation of this chemical considered design details of the main control room such as volume, envelope boundaries, ventilation systems, and occupancy factor.
HAR-167	STD	PT02	FSAR06	06.04.T/T6.4-201	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.4, Table 6.4-201 for hydrogen gas change "500 ft ² " to "500 scf" and change "375 ft" to "126.3 ft"
HAR-168	STD	PT02	FSAR06	06.04.T/T6.4-201	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.4, Table 6.4-201 for nitrogen change "1500 gal" to "3000 gal."
HAR-169	STD	PT02	FSAR06	06.04.T/T6.4-201	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.4, Table 6.4-201 under the column heading "Evaluate material" change "CO2" to read "Carbon Dioxide (CO ₂)."
HAR-170	STD	PT02	FSAR06	06.04.T/T6.4-201	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.4, Table 6.4-201 change "CWS Area" to "CWS area" where it appears in table (several places).
7805	STD	PT02	FSAR06	06.04.T/T6.4-201 Part A	VEGP-RAI LTR 061 response to RAI 06.04-005 item 1 SNC Ltr ND-10-1721	1. COLA Part 2, FSAR Chapter 6, Section 6.4, Table 6.4-201 Part A, will be revised for the standard chemicals of hydrogen (liquid), nitrogen, and carbon dioxide, to change the Evaluated Minimum Distance to MCR Intake from 814 ft to 577 ft.
7806	STD	PT02	FSAR06	06.04.T/T6.4-201 Part A	VEGP-RAI LTR 061 response to RAI 06.04-005 item 2 SNC Ltr ND-10-1721	2. COLA Part 2, FSAR Chapter 6, Section 6.4, Table 6.4-201 Part A, will be revised for the standard chemicals of hydrogen (liquid and gas), nitrogen, and carbon dioxide, to change the MCR Habitability Impact Evaluation from IH to MCR.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
6999	STD	PT02	FSAR06	06.04.T/T6.4-201	BLN RAI LTR 169 response to 06.04-008 item 1	1. COLA Part 2, FSAR Chapter 6, table of toxic chemical evaluations, Table 6.4-201 title will be revised from: ONSITE CHEMICALS(1) To read: MAIN CONTROL ROOM HABITABILITY EVALUATIONS OF ONSITE TOXIC CHEMICALS(1)
7000	STD	PT02	FSAR06	06.04.T/T6.4-201	BLN RAI LTR 169 response to 06.04-008 item 2	2. COLA Part 2, FSAR Chapter 6, table of toxic chemical evaluations, Table 6.4-201 will be revised to divide the table into two parts, a portion identifying AP1000 standard toxic chemical evaluations (those expected to be applicable to most AP1000 COL applications) with an LMA of STD COL 6.4-1 [these and items that were previously identified with an LMA of STD SUP have been updated and all STD items revised to an LMA of STD COL] and a portion identifying site-specific toxic chemical evaluations with an LMA of LNP COL 6.4-1. This change is shown in Attachment 06.04-08A of the BLN response
7001	STD	PT02	FSAR06	06.04.T/T6.4-201	BLN RAI LTR 169 response to 06.04-008 item 3	3. COLA Part 2, FSAR Chapter 6, table of toxic chemical evaluations, Table 6.4-201, will be revised to include an additional column for the "MCR Habitability Impact Evaluation" as shown below and in Attachment 06.04-08A of the BLN response. The content of the column entries is mixed as identified by the LMAs. In addition, the column headers will be revised to read: Evaluated Material Evaluated State Evaluated Maximum Quantity Evaluated Minimum Distance to MCR intake Evaluated Location MCR Habitability Impact Evaluation
7002	STD	PT02	FSAR06	06.04.T/T6.4-201	BLN RAI LTR 169 response to 06.04-008 item 4	4. COLA Part 2, FSAR Chapter 6, table of toxic chemical evaluations, Table 6.4-201, footnotes will be revised and combined into a single footnote that reads as shown in Attachment 06.04-08A of the BLN response.
HAR-171	STD	PT02	FSAR06	06.04.T/T6.4-201	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 6, Section 6.4, Table 6.4-201 first sentence of the footnote add "evaluated" in front of "container." In the second sentence add the word "be" in front of "actual."
7714	STD	PT02	FSAR 06	06.04.T/T6.4-201	VEGP-VOL-CH06 re toxic chemicals response to STD-COL-06.04-001 item 1 SNC Ltr ND-10-1473	1. COLA Part 2, FSAR Chapter 6, Section 6.4, standard portion of table of toxic chemical evaluations as modified by the response to BLN-RAI-LTR-169 will be further revised in the Standard Onsite Toxic Chemicals listing for the Hydrogen Gas from "Corner of the Auxiliary and Turbine buildings" to read "Yard at turbine building" in the "Evaluated Location" column.
7715	HAR	PT02	FSAR 06	06.04.T/T6.4-201	VEGP-VOL-CH06 re toxic chemicals response to STD-COL-06.04-001 item 2 SNC Ltr ND-10-1473	2. COLA Part 2, FSAR Chapter 6, Section 6.4, standard portion of table of toxic chemical evaluations as modified by the response to BLN-RAI-LTR-169 will be further revised in the Standard Onsite Toxic Chemicals listing for the Hydrogen Liquid from "2000 gal" to read "1500 gal" in the "Evaluated Maximum Quantity" column.
LNP-373	LNP	PT02	FSAR 06	06.04.04	To be consistent with DCD Rev. 17	Change "sixth" to "eighth" due to addition of two paragraphs in the DCD.
Chapter 7						
7264	STD	PT02	FSAR 07	07.01	VEGP-VOL-CH07 response to 07.01-001 item 2 SNC Ltr ND-10-1118	2. COLA Part 2, FSAR Chapter 7, Section 7.1, will be revised to read (with an LMA of STD COL 7.1-1 for the new subsection 7.1.6.1): 7.1 INTRODUCTION This section of the referenced DCD is incorporated by reference with the following departures and/or supplements. ----- 7.1.6.1 Setpoint Calculations for Protective Functions The Setpoint Program described in Technical Specifications Section 5.5 provides the appropriate controls for update of the instrumentation setpoints following completion of the calculation of setpoints for protective functions and the reconciliation of the setpoints against the final design.
7261	STD	PT02	FSAR 07	07.05	VEGP-VOL-CH07 response to 07.04-001 item 4 SNC Ltr ND-10-1118	4. COLA Part 2, FSAR Chapter 7, Section 7.5, LMA will be revised from "LNP SUP 7.5-1" to "STD COL 7.5-1."

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7544	STD	PT02	FSAR07	07.05.02, 07.05.03.05	VEGP-VOL-CH07 response to 07.04-001 item 3 SNC Ltr ND-10-1266	COLA Part 2, FSAR Chapter 7, Section 7.5, will be revised for Subsections 7.5.2 and 7.5.3.5 (with LMA of VEGP SUP 7.5-1) from: Add the following paragraph at the end of Subsection 7.5.2. FSAR Table 7.5-201 supplements DCD Table 7.5-1 and provides variable data shown in the DCD Table as "site specific." Add the following paragraph at the end of Subsection 7.5.3.5. FSAR Table 7.5-202 supplements DCD Table 7.5-8 and provides variable data shown in the DCD Table as "site specific." To read (with LMAs for both subsections of STD COL 7.5-1): 7.5.2 VARIABLE CLASSIFICATIONS AND REQUIREMENTS Add the following paragraph at the end of DCD Subsection 7.5.2. FSAR Table 7.5-201 supplements DCD Table 7.5-1 and provides variable data shown in the DCD Table as "site specific." 7.5.3.5 Type E Variables Add the following paragraph at the end of DCD Subsection 7.5.3.5. FSAR Table 7.5-202 supplements DCD Table 7.5-8 and provides variable data shown in the DCD Table as "site specific."
7260	STD	PT02	FSAR 07	07.05.05	SUPERSEDED by VEGP VOL CH07 S1 response to 07.04-001 item 4 SNC Ltr ND-10-1266 VEGP-VOL-CH07 response to 07.04-001 item 3 SNC Ltr ND-10-1118	3. COLA Part 2, FSAR Chapter 7, Section 7.5, will be revised to add Subsection 7.5.5: 7.5.5 COMBINED LICENSE INFORMATION STD COL 7.5-1 This COL item is addressed in Subsections 7.5.2 and 7.5.3.5.
7545	STD	PT02	FSAR07	07.05.05	VEGP-VOL-CH07 response to 07.04-001 item 4 SNC Ltr ND-10-1266	COLA Part 2, FSAR Chapter 7, Section 7.5, will be revised to add Subsection 7.5.5 with LMAs of both STD COL 7.5-1 and HAR COL 7.5-1: 7.5.5 COMBINED LICENSE INFORMATION This COL item is addressed in Subsection 7.5.2 and Table 7.5-201, and in Subsection 7.5.3.5 and Table 7.5-202.
7274	STD	PT02	FSAR 07	07.05.05	Errata related to VEGP-VOL-CH07 response to 07.04-001 item 3 SNC Ltr ND-10-1118	COLA Part 2, FSAR Chapter 7, Subsection 7.5.5, will be revised to add a second LMA to Subsection 7.5.5 of HAR COL 7.5-1 along with the existing STD COL 7.5-1.
LNP-369	STD	PT02	FSAR 07	07.05.T/7.5-201	Conformance to Vogtle/Bellefonte NRC RAI LTR 006 AR-08-1728	Split Table 7.5-201 into two tables.
7262	STD	PT02	FSAR 07	07.05.T/7.5-201, 7.5-202	VEGP-VOL-CH07 response to 07.04-001 item 5 SNC Ltr ND-10-1118	5. COLA Part 2, FSAR Chapter 7, Section 7.5, LMAs for Tables 7.5-201 and 7.5-202 will be revised from "HAR SUP 7.5-1" to "HAR COL 7.5-1."
7262	STD	PT02	FSAR07	07.05.T/7.5-201, 7.5-202	VEGP-VOL-CH07 response to 07.04-001 item 5 SNC Ltr ND-10-1266	COLA Part 2, FSAR Chapter 7, Section 7.5, LMAs for Tables 7.5-201 and 7.5-202 will be revised from "HAR SUP 7.5-1" to "HAR COL 7.5-1."
HAR-010	HAR	PT02	FSAR 07	07.05.T/7.5-201	NPD-NRC-2010-036, H-0617	Revise the Range/Status information in Table 7.5-201 for Plant and Environs Radioactivity (portable instruments) from: "10-3 R/hr to 10-4 R/hr, photons 10-3 rads/hr to 10-4 rads/hr, beta radiations and low-energy photons" To read: "10 ⁻³ R/hr to 10 ⁻⁴ R/hr, photons; 10 ⁻³ rads/hr to 10 ⁻⁴ rads/hr, beta radiations and low-energy photons"
Chapter 8						

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
8026	STD	Pt 02	FSAR 08	08.03.02.01.04	VEGP-VOL-CH08 response to STD-VOL-08.03-002 item 1 SNC Ltr ND-10-2005	<p>1. COLA Part 2, FSAR Chapter 8, Subsection 8.3.2.1.4, Maintenance and Testing, will be revised to add the following as the last paragraph with LMA STD COL 8.3-2:</p> <p>Procedures are established for periodic testing of the Class 1E battery chargers and Class 1E voltage regulating transformers in accordance with the manufacturer recommendations.</p> <ul style="list-style-type: none"> • Circuit breakers in the Class 1E battery chargers and Class 1E voltage regulating transformers that are credited for an isolation function are tested through the use of breaker test equipment. This verification confirms the ability of the circuit to perform the designed coordination and corresponding isolation function between Class 1E and non-Class 1E components. Circuit breaker testing is done as part of the Maintenance Rule program and testing frequency is determined by that program. • Fuses / fuse holders that are included in the isolation circuit are visually inspected. • Class 1E battery chargers are tested to verify current limiting characteristic utilizing manufacturer recommendation and industry practices. Testing frequency is in accordance with that of the associated battery.
8027	STD	Pt 02	FSAR 08	08.03.02.02	VEGP-VOL-CH08 response to STD-VOL-08.03-002 item 2 SNC Ltr ND-10-2005	<p>2. COLA Part 2, FSAR Chapter 8, will be revised to add new Section 8.3.2.2 to read:</p> <p><u>8.3.2.2 Analysis</u></p> <p>STD DEP 8.3-1 Replace the first sentence of the third paragraph of DCD Subsection 8.3.2.2 with the following:</p> <p>The Class 1E battery chargers are designed to limit the input (ac) current to an acceptable value under faulted conditions on the output side, however, the voltage regulating transformers do not have active components to limit current; therefore, the Class 1E voltage regulating transformer maximum current is determined by the impedance of the transformer.</p>
Chapter 9						
7066	STD	PT02	FSAR 09	09.01.06	COL-SER-OI-CH09, S1 response to OI 09.01-001 item 1 SNC Letter ND-10-0781	<p>1- COLA Part 2, FSAR Chapter 9, Subsection 9.1.6 will be revised to read:</p> <p>STD COL 9.1-7 A spent fuel rack Metamic coupon monitoring program is to be implemented when the plant is placed into commercial operation. This program includes tests to monitor bubbling, blistering, cracking, or flaking; and a test to monitor for corrosion, such as weight loss measurements and / or visual examination. The program will also include tests to monitor changes in physical properties of the absorber material, including neutron attenuation and thickness measurements. The program will include the methodology and acceptance criteria for the tests listed and provide corrective action requirements based on vendor recommendations and industry operating experience. The program will be implemented through plant procedures.</p> <p><u>Metamic Monitoring Acceptance Criteria:</u></p> <ul style="list-style-type: none"> • Verification of continued presence of the boron is performed by neutron attenuation measurement. A decrease of no more than 5% in Boron-10 content, as determined by neutron attenuation, is acceptable. This is equivalent to a requirement for no loss in boron within the accuracy of the measurement. • Coupons are monitored for unacceptable swelling by measuring coupon thickness. An increase in coupon thickness at any point of no more than 10% of the initial thickness at that point is acceptable. <p>Changes in excess of either of the above two acceptance criteria are investigated under the corrective action program and may require early retrieval and measurement of one or more of the remaining coupons to provide validation that the indicated changes are real. If the deviation is determined to be real, an engineering evaluation is performed to identify further testing or any corrective action that may be necessary.</p> <p>Additional parameters are examined for early indications of the potential onset of Metamic degradation that would suggest a need for further attention and possibly a change in the coupon withdrawal schedule. These include visual inspection for surface pitting, blistering, cracking, corrosion or edge deterioration, or unaccountable weight loss in excess of the measurement accuracy.</p>
HAR-099	HAR	Pt 02	FSAR 09	09.05.02.02.03.01	Voluntary Response related to Emergency Operations Facility (EOF) Design per NPD-NRC-2010-093 (H-0654)	HAR COLA Part 2, FSAR Chapter 9, Subsection 9.5.2.2.3.1, will be revised to add LMA HAR COL 18.2-2.
7870	STD	PT02	FSAR 09	09.05.04.05.02	Editorial - Provide appropriate description of the testing	COLA Part 2, FSAR Chapter 9, Subsection 9.5.4.5.2, second paragraph, the word "kinetic" will be revised to "kinematic" to match the required ASTM testing.
7804	STD	PT02	FSAR 09	09.05.T / T9.5-201 033	Provide appropriate reference for control room personnel breathing air source	<p>COLA Part 2, FSAR Chapter 9, Table 9.5-201, item 33, will be revised under the column Remarks from:</p> <p>Subsection 9.5.1.8.2.2 and DCD Subsection 6.4.3.1 address these requirements.</p> <p>To read:</p> <p>Subsection 9.5.1.8.2.2 and DCD Subsections 6.4.2.3 and 6.4.4 address these requirements.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
Chapter 10						
No Change						
Chapter 11						
						<p>COLA Part 2, FSAR Chapter 11, Subsection 11.2.1.2.4, will be revised to remove the DCD info from:</p> <p>11.2.1.2.4 Controlled Release of Radioactivity</p> <p>Replace the last paragraph in DCD Subsection 11.2.1.2.4 with the following information:</p> <p>The monitored radwaste discharge pipeline is engineered to preclude leakage to the environment. This pipe is routed from the auxiliary building to the radwaste building (the short section of pipe between the two buildings is fully available for visual inspection as noted above) and then out of the radwaste building to the licensed release point for dilution and discharge. The discharge radiation monitor and isolation valve are located inside the auxiliary building. The exterior piping is designed to preclude inadvertent or unidentified releases to the environment. No valves, vacuum breakers, or other fittings are incorporated outside of buildings. This greatly reduces the potential for undetected leakage from this discharge to the environment at a non-licensed release point, and supports compliance with 10 CFR 20.1406 (Reference 5).</p> <p>Add the following new paragraph to the end of DCD Subsection 11.2.1.2.4:</p> <p>The HAR site WLS effluent discharge release point is where the WLS effluent discharge pipe connects to the cooling tower blowdown pipe.</p> <p>To read:</p> <p>11.2.1.2.4 Controlled Release of Radioactivity</p> <p>Add the following new paragraph to the end of DCD Subsection 11.2.1.2.4:</p> <p>The HAR site WLS effluent discharge release point is where the WLS effluent discharge pipe connects to the cooling tower blowdown pipe.</p>
8591	STD	PT02	FSAR11	11.02.01.02.04	DCD Rev. 18	
HAR-176	STD	PT02	FSAR11	11.02.T / T11.2-208	Editorial	COLA Part 2, FSAR Chapter 11, Table 11.2-208, delete "FSAR" from in front of "Table 11.2-108."
HAR-177	STD	PT02	FSAR11	11.02.T / T11.2-206, T11.2-207, T11.2-208	Editorial	COLA Part 2, FSAR Chapter 11, Tables 11.2-206, 11.2-207, and 11.2-208 add LMAs "HAR COL 11.2-2" and "HAR COL 11.5-3."
HAR-178	STD	PT02	FSAR11	11.03.T / T11.3-205	Editorial	COLA Part 2, FSAR Chapter 11, Table 11.3-205 Sheet 1, change "(Table 1 of 2)" to "(Sheet 1 of 2)" and on Sheet 2 change "(Table 2 of 2)" to "(Sheet 2 of 2)."
8443	STD	PT02	FSAR11	11.04.07	Editorial addition	COLA Part 2, FSAR Chapter 11, Subsection 11.4.7, Reference 201, is revised to include the ADAMS number in the reference from: ...March 2009. To read: ...March 2009 (ML091460627).
8444	STD	PT02	FSAR11	11.05.09	Editorial addition	COLA Part 2, FSAR Chapter 11, Subsection 11.5.9, Reference 202, is revised to include the ADAMS number in the reference from: ...March 2009. To read: ...March 2009 (ML091050234).
Chapter 12						
						<p>2. COLA Part 2, FSAR Chapter 12, Subsection 12.2.1.1.10, Miscellaneous Sources, will be revised to include a new final paragraph to read:</p> <p>During the period prior to the implementation of the Emergency Plan (in preparation for the initial fuel loading following the 52.103(g) finding), no specific materials related emergency plan will be necessary because:</p> <p>a) No byproduct material will be received, possessed, or used in a physical form that is "in unsealed form, on foils or plated sources, or sealed in glass," that exceeds the quantities in Schedule C in 10 CFR 30.72, and</p> <p>b) The source material to be received, possessed, or used does not involve uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total.</p>
8018	STD	Pt 02	FSAR 12	12.02.01.01.10	VEGP RAI LTR 62 response to RAI 01.05-01 (SNC LTR ND-10-2002)	
HAR-100	HAR	Pt 02	FSAR 12	12.04.F / F12.4-201	Editorial	Remove the distance scale from the bottom of the Figure Key and change revision number from 2 to 3. Delete "Security-Related Information - Withhold Under 10 CFR 2.390" from header.
Chapter 13						

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-206	LNP	PT02	FSAR 13		Editorial	Change "NPD" to "NGPP" and change "Nuclear Plant Development" to New Generation Programs & Processes"
						Revise FSAR Chapter 13, Section 13.1.1.3.1.4 to read: Vice President - New Generation Programs & Processes The Vice President - New Generation Programs & Processes (NGPP) reports to the Executive Vice President - Corporate Development. The VP-NGPP is directly responsible for the licensing and construction of a new nuclear plant. This position is supported in this role by the General Manager - Engineering and Licensing, Director - Construction Management, Director - EPC Contract Management, General Manager - EPC Projects, Director - Program Coordination and Performance Improvement, and General Manager - NGPP Projects. This position serves as the Owner's Project Director interfacing with the EPC contractor Project Director.
HAR-207	HAR	PT02	FSAR 13	13.01.01.03.01.04	Editorial	Change the current wording if the list of figures from: 13.1-202 Shift Operators Organization 13AA-201 Construction Management and Organization
					Correction from submitted Rev. 2 to Rev. 3 for figure titles also consistency with the Vogtle Revision 3	To Read: 13.1-202 Shift Operations Organization 13AA-201 Construction Management Organization
HAR-204	HAR	PT02	FSAR 13	13 TOC / 13-vi		Change the current wording if the list of figures from: 13.1-202 Shift Operators Organization 13AA-201 Construction Management and Organization
					Correction from submitted Rev. 2 to Rev. 3 for figure titles also consistency with the Vogtle Revision 3	To Read: 13.1-202 Shift Operations Organization 13AA-201 Construction Management Organization
HAR-205	HAR	PT02	FSAR 13	13.1-202 / 13AA-201 Figures		1. Revise the first sentence of the last paragraph of FSAR Subsection 13.1.2.1.4.9 from: "The Supervisor – Fire Protection reports through the Manager – Harris Engineering and Support to the Vice President – HNP who has ultimate responsibility for fire protection of the plant." To read: "The Supervisor - Fire Protection reports to the Vice President – HNP, who has ultimate responsibility for fire protection of the plant, via the Superintendent – Design Engineering, Manager – Harris Engineering and Support and the Director – Site Operations (DSO)."
HAR-101	HAR	PT02	FSAR 13		NPD-NRC-2008-044, H-0086, Response to NRC LTR 013 RAI 09.05.01-1	1. Revise the last sentence of FSAR Subsection 13.1.2.1.3.9 from: "In accordance with Regulatory Guide 1.189 the Lead Engineer – Fire Protection Program is a graduate of an engineering curriculum of accepted standing and has completed not less than six years of engineering experience, three of which were in a responsible position in charge of fire protection engineering work." To read: "The Lead Engineer – Fire Protection Program meets the educational and experience/knowledge requirements of Regulatory Guide 1.189, Revision 1, Section C.1.6.1.a."
HAR-102	HAR	PT02	FSAR 13	13.01.02.01.04.09	NPD-NRC-2008-044, H-0086, Response to NRC LTR 013 RAI 09.05.01-2	
7018	STD	PT02	FSAR 13	13.03	Include the EP in FSAR as required by 52.79	COLA Part 2, FSAR Section 13.3, to be revised to include an IBR statement for the EP from: The emergency planning information is submitted to the Nuclear Regulatory Commission as a separate licensing document. To read: The emergency planning information is submitted to the Nuclear Regulatory Commission as a separate licensing document and is incorporated by reference (see Table 1.6-201).
7219	STD	PT02	FSAR 13	13.03	VEGP-VOL-Ch13 response to STD 13.03-01 item 2 SNC Ltr ND-10-1036	2. COLA Part 2, FSAR Chapter 13, Section 13.3, will be revised to read: STD COL 13.3-1 The emergency planning information is submitted to the Nuclear Regulatory Commission as a separate licensing document and is incorporated by reference. (see Table 1.6-201).
HAR-088	STD	PT02	FSAR 13	13.04.T/T13.4-201	Editorial to match FSAR Section 17.1	Revise FSAR Chapter 13, Table 13.4-201 Implementation Milestone column for Item 16, Quality Assurance Program-Operation from "COL Issuance" To Read: "30 days after COL issuance or prior to initiation of post-COL quality related activities, whichever is later".

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7587, 7588, 7589	STD	PT02	FSAR 13	13.04.T/T13.4-201 08	COL-SER-OI-Ch01 response to OI 01.05-01 Supplement (SNC LTR ND-10-1305)	1. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 8, Fire Protection Program, Program Title column, will be revised from: (portions applicable to SNM) To read: (portions applicable to radioactive material) 2. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 8, Fire Protection Program, will be revised to add the following reference under the "Program Source" column. 10 CFR 70.22 3. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 8, Fire Protection Program, will be revised to add the following reference under the "Implementation Requirement" column. 10 CFR 70.22(a)
7590, 7591, 7592	STD	PT02	FSAR 13	13.04.T/T13.4-201 11	COL-SER-OI-Ch01 response to OI 01.05-01 Supplement (SNC LTR ND-10-1305)	4. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 11, Non-Licensed Plant Staff Training Program, will be revised from: (portions applicable to SNM) To read: (portions applicable to radioactive material) 5. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 11, Non-Licensed Plant Staff Training Program, will be revised to add the following reference under the "Program Source" column. 10 CFR 70.22 6. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 11, Non-Licensed Plant Staff Training Program, will be revised to add the following reference under the "Implementation Requirement" column. 10 CFR 70.22(a)
7593, 7594, 7595	STD	PT02	FSAR 13	13.04.T/T13.4-201 14	COL-SER-OI-Ch01 response to OI 01.05-01 Supplement (SNC LTR ND-10-1305)	7. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 14, Emergency Planning, Program Title column, will be revised from: (portions applicable to SNM) To read: (portions applicable to radioactive material) 8. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 14, Emergency Planning, Program Source column, will be revised from: 10 CFR 30.32 10 CFR 40.31 To read: 10 CFR 30.32(i)(3) 10 CFR 40.31(i)(3) 10 CFR 70.22(i)(3) 9. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 14, Emergency Planning, Implementation - Requirement column, will be revised from: 10 CFR 30.32(a) 10 CFR 40.31(a) To read: 10 CFR 30.32(i)(1) 10 CFR 40.31(i)(1) 10 CFR 70.22(i)(1)
8017	STD	Pt 02	FSAR 13	13.04.T / T13.4-201 14	VEGP RAI LTR 62 response to RAI 01.05-01 (SNC LTR ND-10-2002)	Revise COLA Part 2 FSAR Chapter 13.4 Table 201 item 14, Emergency Planning, to remove the following information: (portions applicable to radioactive material) 10CFR 30.32(i)(3) Prior to initial receipt of byproduct, source, or special nuclear materials 10CFR 30.32(i)(1) 10CFR 40.31(i)(3) (excluding Exempt Quantities as described in 10CFR 30.18) 10CFR 70.22(i)(3)
7596, 7597, 7598	STD	PT02	FSAR 13	13.04.T/T13.4-201 15	COL-SER-OI-Ch01 response to OI 01.05-01 Supplement (SNC LTR ND-10-1305)	10. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 15, Physical Security Program, Program Title column, will be revised from: (portions applicable to SNM) To read: (portions applicable to radioactive material) 11. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 15, Physical Security Program, will be revised to add the following reference under the "Program Source" column. 10 CFR 73.1 12. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, item 15, Physical Security Program, will be revised to add the following reference under the "Implementation Requirement" column. 10 CFR 73.1(a)
8121	STD	PT02	FSAR13	13.04.T / T13.4-201 15	VEGP-RAI-LTR 051 S2 item 1 SNC Ltr ND-10-2040	1. COLA Part 2, FSAR, Chapter 13, Section 13.4, Table 13.4-201, item 15, Security Program, will be revised. Refer to the final response letter posted in eB for the complete change.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary																		
7302	STD	PT02	FSAR 13	13.04.T/T13.4-201 20	RAI LTR 049 S1 response to RAI 13.06-035 item 1 (SNC LTR ND-10-1230)	COLA Part 2, FSAR, Table 13.4-201, will be revised per FFD Program Implementation changes from SNC LTR ND-10-1230																		
6996	STD	PT02	FSAR 13	13.04.T/T13.4-201 21	Superseded by Qb 8122 below (Match 73.55 for security programs)	COLA Part 2, FSAR Section 13.4, Table 13.4-201, item 21, Cyber Security Milestone column to be revised from "Prior to initial fuel load" to read "Prior to receipt of fuel onsite (protected area)"																		
8122	STD	PT02	FSAR13	13.04.T / T13.4-201 21	VEGP-RAI-LTR 051 S2 item 2 SNC Ltr ND-10-2040	2. COLA Part 2, FSAR, Chapter 13, Section 13.4, Table 13.4-201, item 21, Cyber Security Program, will be revised to read: <table><tr><th>Item</th><th>Program Title</th><th>Program Source (Required by)</th><th>FSAR Section</th><th>Implementation Milestone</th><th>Requirement</th></tr><tr><td>21.</td><td>Cyber Security Program</td><td>10 CFR 73.54(b)</td><td>13.6</td><td>Prior to receipt of 10 CFR 73.55(a)(4) fuel onsite</td><td>10 CFR 73.55(b)(8); (protected area)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>10 CFR 73.55(c)(6)</td></tr></table>	Item	Program Title	Program Source (Required by)	FSAR Section	Implementation Milestone	Requirement	21.	Cyber Security Program	10 CFR 73.54(b)	13.6	Prior to receipt of 10 CFR 73.55(a)(4) fuel onsite	10 CFR 73.55(b)(8); (protected area)						10 CFR 73.55(c)(6)
Item	Program Title	Program Source (Required by)	FSAR Section	Implementation Milestone	Requirement																			
21.	Cyber Security Program	10 CFR 73.54(b)	13.6	Prior to receipt of 10 CFR 73.55(a)(4) fuel onsite	10 CFR 73.55(b)(8); (protected area)																			
					10 CFR 73.55(c)(6)																			
8384	STD	PT02	FSAR13	13.04.T / T13.4-201 22	VEGP-RAI-LTR-064 response to RAI 01.05-003 item 2 SNC Ltr ND-10-2257	2. COLA Part 2, FSAR Chapter 13, Section 13.4, Table 13.4-201, will be revised by adding a new Item # (where # is the next appropriate number designation) with a left margin annotation (LMA) of STD COL 13.4-1, as follows: Program Title: SNM Material Control and Accounting Program Program Source (Required by): 10 CFR 74, Subpart B (§§ 74.11 – 74.19, excl. § 74.17) FSAR Section: 13.5.2.2.9 Implementation Milestone: Prior to receipt of special nuclear material Implementation Requirement: License Condition																		
7176	STD	PT02	FSAR 13	13.05.01	VEGP RAI LTR 55 response to RAI 13.06-036 (SNC LTR ND-10-0962)	COLA Part 2, FSAR, Subsection 13.5.1, Administrative Procedures, 7th paragraph, will be revised by adding new bulleted text at the end of the current set of bullets, to read: • A process for implementing the safety/security interface requirements of 10 CFR 73.58.																		
8385	STD	PT02	FSAR13	13.05.02.02.09	VEGP-RAI-LTR-064 response to RAI 01.05-003 item 3 SNC Ltr ND-10-2257	3. COLA Part 2, FSAR Chapter 13, Section 13.5, will be revised to add a new subsection 13.5.2.2.9 with an LMA of STD COL 13.5-1, as follows: 13.5.2.2.9 Special Nuclear Material (SNM) Material Control and Accounting Procedures A material control and accounting system consisting of special nuclear material accounting procedures is utilized to delineate the requirements, responsibilities, and methods of special nuclear material control from the time special nuclear material is received until it is shipped from the plant. These procedures provide detailed steps for SNM shipping and receiving, inventory, accounting, and preparing records and reports. The Special Nuclear Material (SNM) Material Control and Accounting (MC&A) Program description is submitted to the Nuclear Regulatory Commission as a separate licensing basis document.																		
7221	STD	PT02	FSAR 13	13.06	VEGP-VOL-Ch13 response to STD COL 13.06-01 item 2 SNC Ltr ND-10-1036	2. COLA Part 2, FSAR Chapter 13, Section 13.6, first paragraph, will be revised to read: The Security Plan is submitted to the Nuclear Regulatory Commission as a separate licensing document in order to fulfill the requirements of 10 CFR 52.79(a)(35) and 52.79(a)(36) and is incorporated by reference (see Table 1.6-201).																		
7222	STD	PT02	FSAR 13	13.06	VEGP-VOL-Ch13 response to STD COL 13.06-01 item 3 SNC Ltr ND-10-1036	3. COLA Part 2, FSAR Section 13.6, second paragraph, to be revised to include an IBR statement for the Cyber Security Plan (CSP) to read: The Cyber Security Plan is submitted to the Nuclear Regulatory Commission as a separate licensing document to fulfill the requirements contained in 10 CFR 52.79(a)(36) and 10 CFR 73.54 and is incorporated by reference (see Table 1.6-201).																		
7012	STD	PT02	FSAR 13	13.06.01	RAI LTR 047 S2 response to RAI 14.03.12-1 (SNC LTRs ND-10-0886 which superseded ND 10-0469)	COLA Part 2, FSAR, Section 13.6.1, Combined License Information Item, will be revised from: Information for the Security Plan portion of this COL item is addressed in Section 13.6. To Read: [Reviewer's Note: The current left-margin annotation (LMA), STD COL 13.6-1, applies to both sentences. Information for the Security Plan portion of this COL item is addressed in Section 13.6. Information for the Physical Security ITAAC portion of this COL item is addressed in Section 14.3.2.3.2.																		

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7007	STD	PT02	FSAR 13	13.07	RAI LTR 049 response to RAI 13.06-033 Item 1 (SNC LTR ND-10-0461)	<p>The Fitness for Duty (FFD) Program (Program) is implemented and maintained in two phases; the construction phase program and the operating phase program. The construction and operations phase programs are implemented as identified in Table 13.4-201.</p> <p>The construction phase program is consistent with NEI 06-06 (Reference 201). The workforce population subject to random testing during construction is determined on a weekly basis by averaging the total number of active construction badges over each preceding seven-day period. The random selection from each week's workforce population is identified by a standard computer-generated random number generator using this number of active badges as the range of numbers considered in the weekly random testing selection.</p> <p>The operations phase program is consistent with 10 CFR Part 26.</p> <p>To read:</p> <p>[Reviewer's Note: The first, second, and fourth paragraphs are annotated with left-margin annotation (LMA) STD SUP 13.7-1 ; the third paragraph, including bullets, is annotated with LMA HAR SUP 13.7-1]</p> <p>The Fitness for Duty Program (FFD) is implemented and maintained in multiple and progressive phases dependent on the activities, duties, or access afforded to certain individuals at the construction site. In general, two different FFD programs will be implemented: a construction FFD program and an operations FFD program. The construction and operations phase programs are illustrated in Table 13.4-201.</p> <p>The construction FFD program is consistent with NEI 06-06 (Reference 201). NEI 06-06 applies to persons constructing or directing the construction of safety- and security-related structures, systems, or components performed onsite where the new reactor will be installed and operated. Management and oversight personnel, as further described in NEI 06-06, and security personnel prior to the receipt of special nuclear material in the form of fuel assemblies (with certain exceptions) will be subject to the operations FFD program that meets the requirements of 10 CFR Part 26, Subparts A through H, N, and O. At the establishment of a protected area, all persons who are granted unescorted access will meet the requirements of an operations FFD program. Prior to issuance of a Combined License, the construction FFD program at a new reactor construction site for those subject to Subpart K will be reviewed and revised as necessary should substantial revisions occur to either NEI 06-06 following NRC endorsement or the requirements of 10 CFR Part 26.</p> <p>The following site-specific information is provided:</p> <ul style="list-style-type: none"> - The construction site area is defined in the Physical Security Plan and will be under the control of Shaw Stone & Webster
7007	STD	PT02	FSAR 13	13.07.01	RAI LTR 049 response to RAI 13.06-033 Item 2 (SNC LTR ND-10-0461)	<p>COLA Part 2, FSAR, Section 13.7.1, will be revised from:</p> <p>201. Nuclear Energy Institute ~ Fitness for Duty Program Guidance for New Nuclear Power Plant Construction Sites," NEI 06-06, Revision 4, February 2009.</p> <p>To read:</p> <p>[Reviewer's Note: This reference is standard supplemental information and is included with the STD SUP 13.7-1 LMA from the fourth paragraph of Section 13.7.1</p> <p>201. Nuclear Energy Institute, "Fitness for Duty Program Guidance for New Reactor Power Plant Construction Sites," NEI 06-06, Revision 5, August 2009 (ML092430016).</p>
8141	STD	PT02	FSAR13	13AA.01.01.01.01.08	VEGP-RAI-LTR-063 response to RAI 01.05-002 item 3 (SNC Ltr ND-10-2114)	<p>3. COLA Part 2, FSAR Chapter 13, Appendix 13AA, Subsection 13AA.1.1.1.1.8, will be revised to add a new last paragraph to read:</p> <p>Periodic assessment involving both the construction and operations organizations continues to identify SSCs that could reasonably be expected to be impacted by scheduled construction activities. Appropriate administrative and managerial controls are then established as necessary. Specific hazards, impacted SSCs, and managerial and administrative controls are reviewed on a recurring basis and, if necessary, controls are revised/developed and implemented and maintained current as work progresses on site. For example, prior to construction activities that involve the use of large construction equipment such as cranes, managerial and administrative controls are in place to prevent adverse impacts on any operating unit(s) overhead power lines, switchyard, security boundary, etc., by providing the necessary restrictions on the use of large construction equipment.</p>
8141	STD	PT02	FSAR13	13AA.01.01.01.01.08	VEGP-RAI-LTR-063 response to RAI 01.05-002 item 3 (SNC Ltr ND-10-2114)	<p>3. COLA Part 2, FSAR Chapter 13, Appendix 13AA, Subsection 13AA.1.1.1.1.8, will be revised to add a new last paragraph to read:</p> <p>Periodic assessment involving both the construction and operations organizations continues to identify SSCs that could reasonably be expected to be impacted by scheduled construction activities. Appropriate administrative and managerial controls are then established as necessary. Specific hazards, impacted SSCs, and managerial and administrative controls are reviewed on a recurring basis and, if necessary, controls are revised/developed and implemented and maintained current as work progresses on site. For example, prior to construction activities that involve the use of large construction equipment such as cranes, managerial and administrative controls are in place to prevent adverse impacts on any operating unit(s) overhead power lines, switchyard, security boundary, etc., by providing the necessary restrictions on the use of large construction equipment.</p>
Chapter 14						
7238	STD	PT02	FSAR 14	14.02.02	Editorial	<p>Revise COLA Part 2, FSAR Subsection 14.2.2 from:</p> <p>"The PT&O organization structure (organizational chart) is included in Startup Administrative Manual."</p> <p>To read:</p> <p>"The PT&O organization structure (organizational chart) is included in the Startup Administrative Manual."</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
8224	STD	Pt 02	FSAR 14	14.02.02.02	VEGP-VOL-CH14 Qualification Requirement response item 2 SNC Ltr ND-10-2204	2. COLA Part 2, FSAR Chapter 14, Subsection 14.2.2.2, PT&O Organization Personnel Qualifications and Training, will be revised to add the following new second paragraph: Acceptable qualifications of non-supervisory test engineers follow the guidance provided in Regulatory Guide 1.28 as discussed in Appendix 1AA, i.e., ASME NQA-1-1994, Appendix 2A-1, Nonmandatory Guidance on the Qualification of Inspection and Test Personnel.
7240	STD	PT02	FSAR 14	14.02.02.04	Editorial	Revise COLA Part 2, FSAR Subsection 14.2.2.4 inserted information, bullet for Construction Group, first sentence from "...Balance-of-Plant engineering..." to "...Balance of Plant (BOP) engineering..."
7291	STD	PT02	FSAR 14	14.02.02.04	Editorial	Revise COLA Part 2 FSAR Subsection 14.2.2.4 inserted information, bullet for Construction Services Quality Group, change from 10 CFR 50.55e ... to ... 10 CFR 50.55(e)
7241	STD	PT02	FSAR 14	14.02.02.04	Editorial	Revise COLA Part 2, FSAR Subsection 14.2.2.4 inserted information, bullet for Construction Services Training Group, first sentence from "...Accordance..." to "...accordance..."
7242	STD	PT02	FSAR 14	14.02.03.01.04	Editorial	Revise COLA Part 2, FSAR Subsection 14.2.3.1.4, from "...52.1 03g..." to "...52.103(g)..."
7243	STD	PT02	FSAR 14	14.02.03.01.05	Editorial	Revise COLA Part 2, FSAR Subsection 14.2.3.1.5, from "...52.1 03g..." to "...52.103(g)..." in two places
LNP-381	LNP	PT02	FSAR 14	14.02.03.02.01	Editorial	In the second paragraph after bulleted list in Subsection 14.2.3.2.1, change "VP-Nuclear Plant Development" to "VP-Harris Nuclear Plant"
7244	STD	PT02	FSAR 14	14.02.08	Editorial	Revise COLA Part 2, FSAR Subsection 14.2.8, second inserted paragraph that begins "The sequential schedule... from "...SSC..." to "...structures, systems and components (SSC)..." and revise last sub-bullet under bullet Initial Test Program Schedule from "...Structures, Systems and Components (SSC)..." to "...SSC..."
7531	STD	PT02	FSAR 14	14.02.09.02.22	RAI LTR 057 response to RAI 03.12-002 (SNC LTR ND-10-1263 and ND-10-1501), Item 4	COLA Part 2, FSAR Chapter 14, new Subsection 14.2.9.2.22, will be added to read (with an LMA of STD COL 3.9-5): 14.2.9.2.22 Pressurizer Surge Line Testing (First Plant Only) (see text of item 4 of SNC LTR ND-10-1263 for complete change)
LNP-250 also Qb 7013	HAR	PT02	FSAR 14	14.03.02.03.02	(Superseded by response to RAI LTR 047 S2 response below) NPD-NRC-2010-031, response L 0746	COLA Part 2, FSAR, Section 14.3.2.3.2, Physical Security ITAAC (PS-ITAAC), will be revised from: Generic PS-ITAAC have been developed in a coordinated effort between the NRC and the Nuclear Energy Institute (NEI) as outlined in Appendix C.II.I-C of Regulatory Guide 1.206. These generic ITAAC have been tailored to the AP1000 design and site-specific security requirements. Information for the Security Plan portion of this COL item is addressed in Section 13.6. To Read: [Reviewer's Note: A new left-margin annotation (LMA) STD COL 13.6-1 will be applied to this paragraph. The current LMA, STD SUP 14.3-1, applies only to Subsection 14.3.2.3.3, Other Site-Specific Systems.] Generic PS-ITAAC have been developed in a coordinated effort between the NRC and the Nuclear Energy Institute (NEI). These generic ITAAC have been tailored to the AP1000 design and site-specific security requirements. Information for the Security Plan portion of this COL item is addressed in Section 13.6.
7295	STD	PT02	FSAR 14	14.03.02.03.02	RAI LTR 047 S2 response to RAI 14.03.12-1 (SNC LTR ND-10-0886 which superseded ND-10-0469)	COLA Part 2, FSAR, Section 14.3.2.3.2, Physical Security ITAAC (PS-ITAAC), will be revised from: Generic PS-ITAAC have been developed in a coordinated effort between the NRC and the Nuclear Energy Institute (NEI) as outlined in Appendix C.II.I-C of Regulatory Guide 1.206. These generic ITAAC have been tailored to the AP1000 design and site-specific security requirements. To Read: [Reviewer's Note: A new left-margin annotation (LMA) STD COL 13.6-1 will be applied to this paragraph. The current LMA, STD SUP 14.3-1, applies only to Subsection 14.3.2.3.3, Other Site-Specific Systems.] Generic PS-ITAAC have been developed in a coordinated effort between the NRC and the Nuclear Energy Institute (NEI). These generic ITAAC have been tailored to the AP1000 design and site-specific security requirements.
7023	STD	PT02	FSAR 14	14.03.03	Superseded by OI response below COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 5 (SNC Ltr ND-10-0585)	COLA Part 2, FSAR Chapter 14, Subsection 14.3.3, add the following Subsections 14.3.3.# (where # is the next sequential number) and text, as identified in the referenced VEGP letter.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
						<p>5. COLA Part 2, FSAR Chapter 14, Subsection 14.3.3, add the following Subsections 14.3.3.# (where # is the next sequential number) and text, (note that the first item added will have an LMA of STD COL 3.6-1, and the second item added will have an LMA of STD COL 3.9-1) as follows:</p> <p>14.3.3.# Pipe Rupture Hazard Analysis ITAAC</p> <p>A pipe rupture hazard analysis is part of the piping design. The analyses will document that structures, systems, and components (SSCs) which are required to be functional during and following a design basis event have adequate high-energy and moderate-energy pipe break mitigation features. The locations of postulated ruptures and essential targets will be established and required pipe whip restraint and jet shield designs will be included. The as-designed pipe rupture hazards analysis will be based on the as-designed piping analysis and will be in accordance with the criteria outlined in DCD Subsections 3.6.1.3.2 and 3.6.2.5. The evaluation will address environmental and flooding effects of cracks in high and moderate energy piping. The report of the pipe rupture hazard analysis shall conclude that, for each postulated piping failure, the systems, structures, and components that are required to be functional during and following a design basis event are protected.</p> <p>The as-built reconciliation of the pipe rupture hazards evaluation whip restraint and jet shield design in accordance with the criteria outlined in DCD Subsections 3.6.1.3.2 and 3.6.2.5 are covered in as-built ITAAC identified in DCD Tier 1 to demonstrate that the as-built pipe rupture hazards mitigation features reflect the design, as reconciled. The reconciliation report will be made available for NRC inspection or audit when it has been completed.</p> <p>The as-designed pipe rupture hazard analysis completed for the first standard AP1000 plant will be available to subsequent standard AP1000 plants under the "one issue, one review, one position" approach for closure.</p> <p>14.3.3.# Piping Design IT AAC</p> <p>The piping design ITAAC consists of the piping analysis for safety-related ASME Code piping. The piping design is completed on a package-by-package basis for applicable systems. In order to support closure of the piping design ITAAC, information consisting of the as-designed piping analysis for piping lines chosen to demonstrate all aspects of the piping design will be made available for NRC review, inspection, and/or audit. This information will consist of a design report referencing the as-designed piping calculation packages, including ASME Section III piping analysis, support evaluations and piping component fatigue analysis for Class I piping. The piping packages to be analyzed are identified in the DCD.</p> <p>The ASME Code prescribes certain procedures and requirements that are to be followed for completing the piping design.</p>
7072	STD	PT02	FSAR 14	14.03.03	COL-SER-OI-Ch03 S6 response to OI 03-06-001 item 5 (SNC Ltr ND-10-0801)	The piping design ITAAC includes a verification of the ASME Code design report to ensure that the appropriate code design requirements for each system's safety class have been implemented.
7245	STD	PT02	FSAR 14	14.04.04	Editorial	A reconciliation of the applicable safety-related as-built piping systems is covered in as-built IT AAC identified in DCD Tier 1 to demonstrate that the as-built piping reflects the design, as reconciled. The reconciliation report will be made available for NRC inspection or audit when it has been completed.
						The piping design completed for the first standard AP1000 plant will be available to subsequent standard AP1000 plants under the "one issue, one review, one position" approach for closure.
						Revise COLA Part 2, FSAR Subsection 14.4.4, from "...hold points is addressed..." to "...hold points are addressed..."
7712	LNP	PT02	FSAR 14	14.03.03	Revision to LMA for item in COL-SER-OI-Ch03 S6 response to OI 03-06-001 item 5 SNC Letter ND-10-0801	
						COLA Part 2, FSAR Chapter 14, Subsection 14.3.3.# (where # is the next sequential number). Piping Design ITAAC, LMA is revised from STD COL 3.9-1 to STD COL 3.9-7 (which is the COL item addressed in the Basis letter).
7938	STD	Pt 02	FSAR14	14A	WEC DCD Rev 18 per WEC response to OI-SRP3.12-EMB-4 R1 via DCP/NRC2845 as revised by response to RAI-SRP3.12-EMB-04 R2 via DCP/NRC3020 with errata for numbering.	COLA Part 2, FSAR Chapter 14, new Appendix 14A, will be added (to incorporate new DCD Appendix) to read:
						APPENDIX 14A DESIGN ACCEPTANCE CRITERIA/ITAC CLOSURE PROCESS
						This section of the referenced DCD is incorporated by reference with no departures or supplements.
Chapter 15						
HAR-172	STD	PT02	FSAR 15	Title	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 15 first page of text in the title change "ANALYSIS" to "ANALYSES"

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7250 / Qb 3961	STD	PT02	FSAR 15	15.00	Superseded by COL-SER-OI-Ch15 S2 response to SER OI 15.00-001 item 2 SNC Ltr ND-10-1527. (Change ID #7764) COL-SER-OI-Ch15 response via ND-10-1018, DCD Rev 18, Based on WEC letter DCP/NRC2461 dated 20090506	2. COLA Part 2, FSAR Chapter 15, Section 15.0, will be revised from: This section of the referenced DCD is incorporated by reference with no departures or supplements. To read (new sections will include LMA of STD COL 15.0-1): This section of the referenced DCD is incorporated by reference with the following departures and/or supplements. 15.0.3.2 Initial Conditions Add the following paragraph at the end of DCD Subsection 15.0.3.2. The actual selected plant operating instrumentation has documented instrumentation uncertainties to calculate a primary power calorimetric uncertainty that confirms the uncertainty assumed for the initial reactor power in the safety analysis bounds the calculated calorimetric values. 15.0.15 Combined License Information Add the following text to the end of DCD Subsection 15.0.15.1. This COL item is addressed in FSAR Subsection 15.0.3.2.
7764 (was 4161)	STD	PT02	FSAR 15	15.00	COL-SER-OI-Ch15 S2 response to SER OI 15.00-001 item 2 SNC Ltr ND-10-1527	This section of the referenced DCD is incorporated by reference with the following departures and/or supplements. 15.0.3.2 Initial Conditions Add the following paragraph at the end of DCD Subsection 15.0.3.2.-----THE FOLLOWING TEXT IS SUPERSEDED BY ID # 8124 TEXT. The actual selected plant operating instrumentation has documented instrumentation uncertainties to calculate a power calorimetric uncertainty that confirms the uncertainty assumed for the initial reactor power in the safety analysis bounds the calculated calorimetric values. 15.0.15 Combined License Information Add the following text to the end of DCD Subsection 15.0.15.1. This COL item is addressed in FSAR Subsection 15.0.3.2.
8124	STD	Pt 02	FSAR15	15.00.03.02	COL-SER-OI-CH15 S3 response to SER-OI-15.00-001 item 1 SNC Ltr ND-10-2091	1. COLA Part 2 (Rev. 3), FSAR Chapter 15, Section 15.0.3.2, will be revised to read: The plant operating instrumentation selected for feedwater flow measurement is a Caldon (Cameron) LEFM CheckPlus™ System (Reference 201). This selected plant operating instrumentation has documented instrumentation uncertainties to calculate a power calorimetric uncertainty that confirms the 1% uncertainty assumed for the initial reactor power in the safety analysis bounds the calculated calorimetric power measurement uncertainty values. This calculated calorimetric is done in accordance with a previously accepted Westinghouse methodology (Reference 202). Administrative controls implement maintenance and contingency activities related to the power calorimetric instrumentation.
8125	STD	Pt 02	FSAR15	15.00.16	COL-SER-OI-CH15 S3 response to SER-OI-15.00-001 item 2 SNC Ltr ND-10-2091	2. COLA Part 2 (Rev. 3), FSAR Chapter 15, Section 15.0, will be revised to add the following new subsection: 15.0.16 References Add the following text to the end of DCD Subsection 15.0.16. 201. Final Safety Evaluation for Cameron Measurement Systems Engineering Report ER-157P, Revision 8, "Caldon Ultrasonics Engineering Report ER-157P, 'Supplement to Topical Report ER-80P: Basis for a Power Upate with the LEFM Check or Checkplus™ System'," (TAC No. ME1321). August 16, 2010. ADAMS Accession No. ML102160694. 202. Final Safety Evaluation for Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS-1 and 2) Issuance of Amendment re: 1.4-Percent Power Upate and Revised BVPS-2 Heatup and Cooldown Curves. September 24, 2001, ADAMS Accession No. ML012490569.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
Chapter 16						
No Change						
Chapter 17						
4094	STD	PT02	FSAR 17	17.05	COL-SER-OI-Ch 17 response to OI 17.05-009 VR2 item 1 (SNC Ltr ND-10-0702)	Revise COLA Part 2, FSAR Chapter 17, Section 17.5, first paragraph, to add a STANDARD reference to Table 1.6-201 (the LMAs remain unchanged), to read: This QAPD is incorporated by reference (see Table 1.6-201).
4094	STD	PT02	FSAR 17	17.05	COL-SER-OI-Ch 17 response to OI 17.05-009 VR2 item 1 (SNC Ltr ND-10-0702)	Revise FSAR Subsection 17.5 third paragraph from: The QAPD is the HAR 2 and 3 Quality Assurance Program Description. To Read: The QAPD is the Progress Energy New Nuclear Plant Development Quality Assurance Program Description Topical Report.
7792	STD	PT02	FSAR 17	17.06	VEGP-VOL-Ch03 SIP response to STD COL 03.08-005 item 9 SNC Ltr ND-10-1594	9. COLA Part 2, FSAR Chapter 17, Section 17.6, will be revised to add a new LMA of STD COL 3.8-5 to the first paragraph.
7101	STD	PT02	FSAR 17	17.06	VEGP RAI LTR 053 response to RAI 08.02-014 SNC Ltr ND-10-0813 and HAR RAI-LTR-035 S (H-0613)	COLA Part 2, FSAR Chapter 17, Section 17.6, will be revised to include the following new paragraph at the end of the section with a left margin annotation (LMA) of STD SUP 17.6-2: Condition monitoring of underground or inaccessible cables is incorporated into the maintenance rule program. The cable condition monitoring program incorporates lessons learned from industry operating experience, addresses regulatory guidance, and utilizes information from detailed design and procurement documents to determine the appropriate inspections, tests and monitoring criteria for underground and inaccessible cables within the scope of the maintenance rule (i.e., 10 CFR 50.65). The program takes into consideration Generic Letter 2007-01.
Chapter 18						
HAR-103	HAR	Pt 02	FSAR 18	18.02.01.03	Voluntary Response related to Emergency Operations Facility (EOF) Design per NPD-NRC-2010-093 (H-0654)	HAR COLA Part 2, FSAR Chapter 18, Subsection 18.2.1.3, Applicable Facilities will be revised from: The Emergency Operations Facility (EOF) for Shearon Harris Nuclear Power Plant Units 2 and 3 (HAR 2 and 3) is located at the existing Shearon Harris Nuclear Power Plant Unit 1 (HNP) EOF facility at the Harris Energy and Environmental Center (HE&EC). The EOF communication strategy is in Part 5 of the COL application. To read: The EOF and TSC communications strategies, as well as the EOF and TSC Human Factors attributes, are described in the Emergency Plan. FSAR 9.5.2.2.3.1 provides additional information related to offsite interfaces.
Chapter 19						
HAR-173	HAR	PT02	FSAR19	19.58.03	Editorial	COLA Part 2, FSAR Chapter 19, Subsection 19.58.3, last sentence change "document" to "documented."
HAR-174	STD	PT02	FSAR19	19.59.10.05	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 19, Subsection 19.59.10.5, paragraph with LMA STD COL 19.59.10-3 change "analysis" to "analyses" in 3 places.
HAR-175	STD	PT02	FSAR19	19.59.10.06	Editorial for consistency with R-COLA	COLA Part 2, FSAR Chapter 19, Subsection 19.59.10.6, in the sentence before Subsection 19.59.10.6 change "10.59.10.5" to "19.59.10.5"
PT03						
HAR-104	HAR	Pt 03	ER 02	02.04.T / T2.4-8	Final USACE Wetland/Stream Delineation conforming change	Table 2.4-8 was revised to be in alignment with the jurisdictional determination approved by the USACE. Ephemeral streams table was removed.
HAR-105	HAR	Pt 03	ER 02	02.04.T / T2.4-9	Final USACE Wetland/Stream Delineation conforming change	Table 2.4-9 was revised to be consistent with the jurisdictional determination approved by USACE.
HAR-106	HAR	Pt 03	ER 02	02.04.T / T2.4-10	Final USACE Wetland/Stream Delineation conforming change	Table 2.4-10 was revised to be consistent with the jurisdictional determination approved by USACE.
HAR-107	HAR	Pt 03	ER 02	02.04.T / T2.4-12	Final USACE Wetland/Stream Delineation conforming change	Table 2.4-12 was revised to be consistent with the jurisdictional determination approved by USACE.
HAR-112	HAR	Pt 03	ER 02	02.04.02.02	Final USACE Wetland/Stream Delineation conforming change	Stream length in this section was updated to be consistent with jurisdictional determination approved by the USACE.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-113	HAR	Pt 03	ER 02	02.04.T / T2.4-7	Final USACE Wetland/Stream Delineation conforming change	Table 2.4-7 was revised to be in alignment with the jurisdictional determination approved by the USACE.
HAR-114	HAR	Pt 03	ER 02	02.04.02.02	Final USACE Wetland/Stream Delineation conforming change	Review this ER Section and provide update to incorporate the wetland and stream impact numbers conforming to the Jurisdictional Determination finalization from the USACE for Harris, as needed. (wetland acreage)
HAR-115	HAR	Pt 03	ER 02	02.04.02.02	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-116	HAR	Pt 03	ER 02 App 2	02.04.A / A2.4-1	Final USACE Wetland/Stream Delineation conforming change	Appendix figure was updated to be consistent with the jurisdictional determination approved by the USACE.
HAR-117	HAR	Pt 03	ER 04	04.01.02	Final USACE Wetland/Stream Delineation conforming change	Stream length in this section was updated to be consistent with jurisdictional determination approved by the USACE.
HAR-118	HAR	Pt 03	ER 04	04.03.02.02.01	Final USACE Wetland/Stream Delineation conforming change	Stream length in this section was updated to be consistent with jurisdictional determination approved by the USACE.
HAR-122	HAR	Pt 03	ER 04	04.03.F / F4.3-4	Final USACE Wetland/Stream Delineation conforming change	Figure updated to be consistent with jurisdictional determination approved by USACE.
HAR-123	HAR	Pt 03	ER 04	04.01.01.01.02	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-124	HAR	Pt 03	ER 04	04.01.01.02.05	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-126	HAR	Pt 03	ER 04	04.03.02.02.01	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-127	HAR	Pt 03	ER 05	05.02.01.01	Final USACE Wetland/Stream Delineation conforming change	Stream length in this section was updated to be consistent with jurisdictional determination approved by the USACE.
HAR-129	HAR	Pt 03	ER 05	05.01.01.01.01.01	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-130	HAR	Pt 03	ER 05	05.02.01.04	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-131	HAR	Pt 03	ER 06	06.05.01.01.03.01	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-132	HAR	Pt 03	ER 06	06.05.02.01.02.02	Final USACE Wetland/Stream Delineation conforming change	Stream length in this section was updated to be consistent with jurisdictional determination approved by the USACE.
HAR-133	HAR	Pt 03	ER 06	06.05.02.01.02.02	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-134	HAR	Pt 03	ER 08	08 (All)	Integrated Resource Plan conforming change	Complete rewrite of Chapter 8 for Integrated Resource Plan update, pending legal review.
HAR-135	HAR	Pt 03	ER 09	09.03.02.02.01.04	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-138	HAR	Pt 03	ER 10	10.01.01	Final USACE Wetland/Stream Delineation conforming change	Changed 117 acres to 118 acres of permanently resurfaced for construction of HAR to match numbers in Chapter 4.
HAR-139	HAR	Pt 03	ER 10	10.03.01.01	Final USACE Wetland/Stream Delineation conforming change	Wetland acreages were updated to be consistent with jurisdictional determination approved by USACE.
HAR-900	HAR	Pt 03	ER 01	1.1.7	Pillsbury comments	Changes from Pillsbury Chapter 8 comments- rewrite of section to say: "Overall construction and pre-construction activities specific to HAR are expected to take at least 10 years. Pre-construction activities include long-lead infrastructure work, including raising the level of Harris Lake and planned transportation infrastructure upgrades to accommodate construction traffic. Then, primary HAR site preparation activities and plant pre construction activities will take approximately 18 months to complete. On site construction activities for Unit 2 will take approximately 3 to 4 more years, followed by 6 months of startup testing. On-site construction activities for Unit 3 will take about as long as Unit 2 and start a year or two later. The actual construction and operation schedules are provided in FSAR Section 1.1.5"
HAR-901	HAR	Pt 03	ER 04	4.4.2.4	Editorial	Change "Table 2.5-11" in final sentence on page 4-108 to "Table 2.5-14"
HAR-902	HAR	Pt 03	ER 04	4.1.2	Editorial	Change all titles of Subsection 4.1.2.5 from "Pipeline Corridor" to "Makeup Water Pipeline Corridor"-- in 4.1.2, at title of section, and in TOC
HAR-903	HAR	Pt 03	ER 05	Table 5.10-1	Editorial	Change "HAR Site and Vicinity" in Table 5.10-1 to "The Site and Vicinity"
HAR-904	HAR	Pt 03	ER 06	6.1.1.1	Editorial	Add hyphen to 2nd paragraph, "Reference 6.1-005"
HAR-905	HAR	Pt 03	ER 09	9.1	Editorial	4th paragraph, change "4.4.2, 4.4.3" to "4.4.2.1, 4.4.2.2"
HAR-906	HAR	Pt 03	ER 10	10.2	Editorial	Change "Section 10.2.2" to "Subsection 10.2.2"
HAR-907	HAR	Pt 03	ER 10	TABLE 10.4-1	Editorial	Entire table has 17 sheets, 1st 15 sheets say "Sheet X of 16"- change to "Sheet X of 17"
HAR-908	HAR	Pt 03	ER 01	1.1.6	Editorial	Paragraph 2, changed from "ER Chapter 3 of this ER" to "Chapter 3 of this ER"
HAR-909	HAR	Pt 03	ER 10	10.1.1	Editorial	Change 47 ha (117 ac) to 48 ac (118 ac) for consistency
HAR-910	HAR	Pt 03	ER 06	Table 6.6-1	Editorial	Change heading "Construction and Pre-operational" to "Pre-operational" to match headings on similar table.
HAR-911	HAR	Pt 03	ER 02	2.4.1.5.1	Editorial	Change "Section 2.1 (Land Use)" to "Section 2.2 (Land)"
HAR-912	HAR	Pt 03	ER 09	9.2.1.1	Pillsbury changes	remove "As discussed in Subsection 8.3.1,"
HAR-913	HAR	Pt 03	ER 09	9.2.1.2	Pillsbury changes	remove "as identified in Table 8.1-3"
HAR-914	HAR	Pt 03	ER 09	9.2.1.2	Pillsbury changes	In 9.2.1.2, paragraph 1, last sentence, remove "is discussed in Chapter 8 and"
HAR-915	HAR	Pt 03	ER 09	9.2.1.3	Pillsbury changes	In 9.2.1.3, 1st paragraph, 1st sentence, remove "as discussed in ER Chapter 8,"
HAR-916	HAR	Pt 03	ER 09	9.2.1.3	Pillsbury changes	In 9.2.1.3, 2nd paragraph, 3rd sentence, remove "(see ER Chapter 8)."
HAR-917	HAR	Pt 03	ER 09	9.2.5, TABLE 9.2-1	Pillsbury changes	In Table 9.2-1 uses the OLD Reference 8.0-002. That reference should be added to Chapter 9 instead as Reference 9.2-043: North Carolina General Assembly, "North Carolina General Statute 62-2. Declaration of policy." Website, www.ncleg.net/gascripts/Statutes/StatutesTOC.pl?Chapter=0062 , accessed March 21, 2007.
HAR-918	HAR	Pt 03	ER 10	10.4.1.1	Pillsbury changes	delete "According to Table 8.1-2,"
HAR-919	HAR	Pt 03	ER 01	Table 1.2-1	Tony Pilo comments	On 5th line, change "Possession of fuel." to "Possession of by-product material."
PT04						
5900 (this is being deleted)	STD	Pt 04		A, A.2	Editorial	1) At the end of the Justification sentence for GTS 3-3.1, 3-3.2 and 3-6.4 add the words "the plant specific" in front of "technical specifications". 2) At the end of the Justification sentence for the 1st GTS 5-5.2 and 5-3 add the word "the" in front of "plant specific technical specifications".
LNP-338	STD	PT04		B, 00 TOC, B00 TOC	Editorial	In both the Technical Specifications and the Technical Specification Bases Table of Contents needs to be updated to reflect the current FSAR Revision Level, update revision to FSAR Rev 3.
6525	STD	PT04		TS	Included in Qb 8358 COL-SER-OI-CH03 response to OI 03.09-06 (SNC Ltr ND-09-2015)	COLA Part 4, Technical Specifications, will be revised to incorporate the AP1000 GTS changes identified in the WEC response to the AP1000 DCD SER Open Item, OI-SRP3 9.6-CIB1-05 (Ensure WEC letter is provided to JVT for COLA update)
7265	STD	PT04			COL-SER-OI-CH16 S2 response to OI 16.01-001 SNC Ltr ND-10-0996	See attachments to Westinghouse letter DCPINRC2864 (dated May 6, 2010) -the same changes identified in the Westinghouse letter for the DCD Generic Technical Specifications and Bases will be directly incorporated into the COL plant-specific Technical Specifications and Bases (with the exception that the bracketed Reviewer's Notes will be removed). WEC Letter to be supplied to JVT

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
8358	STD	PT04		B, 00 All	DCD Rev 18	COLA Part 4, Technical Specifications, will be revised to incorporate the AP1000 GTS changes identified by WEC in numerous responses to AP1000 DCD RAIs and SER Open Items, and other sources as incorporated into DCD Revision 18.
7256 (this is being deleted)	STD	Pt 04		B, B02.01.02	Consistency with DCD	Revise header for Basis of TS 2-1.2 from "Reactor Core SLs" to read "RCS Pressure SL".
PT05						
HAR-141	HAR	PT 05	TOC	TOC	NPD-NRC-2010-085, H-0635 item 3	Revise the Table of Contents to add an entry for new section H.1.6, Alternate Emergency Response Facility.
HAR-179	HAR	PT 05	TOC	TOC	Consistency with HNP Unit 1 Emergency Plan	24. Add the following section to the Table of Contents: F.5.2 WebEOC®
HAR-180	HAR	PT 05	TOC	TOC - Acronym Section	Consistency with HNP Unit 1 Emergency Plan	39. Table of Contents, Acronyms Section delete the abbreviations for: CO Control Operator USCO Unit Senior Control Operator
HAR-181	HAR	PT 05	TOC	TOC - Acronym Section	Consistency with HNP Unit 1 Emergency Plan	40. Table of Contents, Acronyms Section add abbreviation for: CRS Control Room Supervisor
HAR-182	HAR	PT 05	Intro	Intro	Consistency with HNP Unit 1 Emergency Plan	36. Revise the Introduction Section, Emergency Plan Purpose, second paragraph, second bullet from: Volume 2, Part 5, Plant Emergency Procedures (PEPs) To Read: Volume 2, Part 5, Plant Emergency Procedures (PEPs) and EP-EAL
HAR-183	HAR	PT 05		A.03.01	Consistency with HNP Unit 1 Emergency Plan	5. Revise A.3.1 title and first bullet from: Chatham County Emergency Operations • Chatham County Emergency Operations has the following responsibilities: To Read: Chatham County Emergency Management • Chatham County Emergency management has the following responsibilities:
HAR-184	HAR	PT 05		A.03.04	Consistency with HNP Unit 1 Emergency Plan	6. Revise A.3.4 title and first bullet from: Lee County Emergency Services • Lee County Emergency Services has the following responsibilities: To Read: Lee County Emergency Management • Lee County Emergency Management has the following responsibilities:
HAR-185	HAR	PT 05		A.03.05	Consistency with HNP Unit 1 Emergency Plan	7. Revise A.3.5 from: Lee County Sheriff's Department The Sheriff's Department operates the county warning point on a 24-hour basis. The county warning point is the Lee County communications center which is manned continuously by a Public Safety Dispatcher. To Read: City of Sanford 9-1-1 Center The City of Sanford operates the county warning point on a 24-hour basis. The city warning point is the Lee County communications center which is manned continuously by a Public Safety Dispatcher.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-186	HAR	PT 05		A.03.07	Consistency with HNP Unit 1 Emergency Plan	<p>8. Revise Section A.3.7 from:</p> <p>Raleigh Communications Center</p> <p>The Raleigh City Communications Center provides emergency telephone notification service and serves Wake County and all municipalities within the county as the 24-hour warning point. The warning point is manned continuously by a Public Safety Dispatcher.</p> <p>To Read:</p> <p>Wake County Sheriff's Office Communications Center</p> <p>The Wake County Sheriff's Office Communications Center provides emergency telephone notification service and serves Wake County and all municipalities within the county as the 24-hour warning point. The warning point is manned continuously by a Public Safety Dispatcher.</p>
HAR-187	HAR	PT 05		A.05.02.c	Consistency with HNP Unit 1 Emergency Plan	<p>10. Revise Section A.5.2.c, Institute of Nuclear Power Operations (INPO) to read:</p> <p>One of INPO's roles is to assist the affected utility in applying the resources of the nuclear industry to meet the needs of the emergency. When notified of an emergency situation, INPO will provide emergency response in accordance with the INPO Emergency Response Plan at the request of the utility. Utility emergency response planning includes notification to INPO, via the emergency telephone number, of events classified Alert or higher.</p> <p>INPO is able to provide the following emergency support functions:</p> <ul style="list-style-type: none"> • Facilitate technical information flow from the affected utility to the nuclear industry. • Locate replacement equipment and personnel with technical expertise. • Obtain technical information and industry experience regarding plant component and systems. • Provide an INPO liaison to facilitate interface. <p>To support these functions, INPO maintains the following emergency support capabilities:</p> <ul style="list-style-type: none"> • Dedicated emergency call number capable of reaching INPO staff and activating INPO support functions 24 hours per day. • Designated INPO representative(s) who can be dispatched to the utility to coordinate INPO support activities and information flow. • An Emergency Response Center available for operation 24 hours per day. <p>An INPO duty person will respond to the call, and the Emergency Response Center at INPO will be activated as necessary.</p> <p>If requested by the utility or when deemed appropriate, one or more suitably qualified members of the INPO staff will report to the Emergency Response Manager and assist in coordinating INPO's response to the emergency, as follows:</p> <ul style="list-style-type: none"> • Staffing a position responsible to the appropriate utility manager as liaison for all INPO matters. • Working with INPO personnel in Atlanta to coordinate requests for assistance, INPO response, and related communications. • Assisting the utility as requested in the use of industry information systems (such as NETWORK) concerning accident status and related information of interest to other utilities. • Ensuring that emergency information released by the INPO liaison is cleared through appropriate utility channels.
HAR-188	HAR	PT 05		A.06.04	Consistency with HNP Unit 1 Emergency Plan	<p>9. Revise Section A.6.4, Nuclear Regulatory Commission (NRC) from:</p> <p>The NRC provides at least one resident inspector at the HNP Site. Upon notification by Progress Energy, the NRC provides additional technical advice, technical assistance, and personnel per NUREG 0728, "Report to Congress, NRC Incident Response Plan," and NUREG 0845, "Agency Procedures for the NRC Incident Response Plan." The NRC Operations Center will be notified of radiation incidents in accordance with 10 CFR 50.72 using the Emergency Telecommunications System (ETS) phone.</p> <p>To Read:</p> <p>The NRC provides at least one resident inspector at HNP. Upon notification by Progress Energy, the NRC provides additional technical advice, technical assistance, and personnel per NUREG-0728, "Report to Congress, NRC Incident Response Plan." The NRC Operations Center will be notified of radiation incidents in accordance with 10 CFR 50.72 using the Emergency Telecommunications System (ETS) phone.</p>
HAR-189	HAR	PT 05		A.01.T / T.A-1	Consistency with HNP Unit 1 Emergency Plan	<p>12. Revise Table A-1, Organizations Participating in Emergency Response, NRC organization: 1. contact and, 2. Agent for Initial Notification from:</p> <p>Director-Site Team Ops.</p> <p>To Read:</p> <p>Site Team Director</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-190	HAR	PT 05		A.01.T / T.A-1	Consistency with HNP Unit 1 Emergency Plan	<p>14. Revise Table A-1, Organizations Participating in Emergency Response, Weather Service International organization: 1. Location for Response and, 2. Agent for Initial Notification from:</p> <p>Landover, Maryland</p> <p>To Read:</p> <p>Andover, Massachusetts</p>
HAR-191	HAR	PT 05		A.01.F / F.A-1	Consistency with HNP Unit 1 Emergency Plan	<p>15. Revise Figure A-1, Emergency Response Organization (ERO) Interfaces (TSC and EOF Not Activated) accordingly:</p> <p>a. Change Chatham County Emergency Operations</p> <p>To Read:</p> <p>Chatham County Emergency Management</p> <p>b. Change Lee County Emergency Services</p> <p>To Read:</p> <p>Lee County Emergency Management</p> <p>c. Change Wake County Emergency Management Agency</p> <p>To Read:</p> <p>Wake County Emergency Management</p>
HAR-192	HAR	PT 05		A.02.F / F.A-2	Consistency with HNP Unit 1 Emergency Plan	<p>16. Revise Figure A-2, Emergency Response Organization (ERO) Interfaces (TSC and EOF Activated) accordingly:</p> <p>a. Change Chatham County Emergency Operations</p> <p>To Read:</p> <p>Chatham County Emergency Management</p> <p>b. Change Lee County Emergency Services</p> <p>To Read:</p> <p>Lee County Emergency Management</p> <p>c. Change Wake County Emergency Management Agency</p> <p>To Read:</p> <p>Wake County Emergency Management</p>
HAR-193	HAR	PT 05		B.04.01.a.01	Consistency with HNP Unit 1 Emergency Plan	<p>37. Delete "(USCOs, COs, and NLOs)" from Section B.4.1.a.1.</p>
HAR-194	HAR	PT 05		B.04.01.b	Consistency with HNP Unit 1 Emergency Plan	<p>38. Revise Section B.4.1 b second sentence from:</p> <p>The assigned alternates are on-shift Licensed Senior Control Operators, as designated in accordance with operations procedures.</p> <p>To Read:</p> <p>The assigned alternates are on-shift Licensed Senior Reactor Operators, as designated in accordance with operations procedures.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-195	HAR	PT 05		B.04.04.x	Consistency with HNP Unit 1 Emergency Plan	<p>43. Revise Section B.4.4.x, Representatives to the State/County EOCs from:</p> <p>Chatham County EOC Law Enforcement Center, Pittsboro, NC</p> <p>Harnett County EOC Law Enforcement Center, Lillington, NC</p> <p>To Read:</p> <p>Chatham County EOC Emergency Operations Center, Pittsboro, NC</p> <p>Harnett County EOC Emergency Operations Center, Lillington, NC</p>
HAR-196	HAR	PT 05		B.01.T / T.B-1	Consistency with HNP Unit 1 Emergency Plan	<p>41. Table B-1, Minimum Staffing Requirements for Emergencies, functional area 1 replace:</p> <p>1. USCO with CRS, and</p> <p>2. Controlled Operators with Licensed Operators</p>
HAR-197	HAR	PT 05		B.01.F / F.B-1	Consistency with HNP Unit 1 Emergency Plan	<p>42. Figure B-1, Harris Emergency Response Organization (CR, TSC, OSC) replace Control Operator with Reactor Operator.</p>
HAR-198	HAR	PT 05		C.02	Consistency with HNP Unit 1 Emergency Plan	<p>13. Revise Section C.2 third paragraph last sentence from:</p> <p>The NRC and FEMA are expected to have representatives at the Site within approximately five to eight hours (Director – Site Team Operations) and approximately sixty to seventy-five minutes (Interim Director) respectively, after receiving notification.</p> <p>To Read:</p> <p>The NRC and FEMA are expected to have representatives at the Site within approximately five to eight hours (Site Team Director) and approximately sixty to seventy-five minutes (Interim Director) respectively, after receiving notification.</p>
HAR-199	HAR	PT 05		D.01	NPD-NRC-2011-013, Voluntary EP Letter and Consistency with HNP Unit 1 Emergency Plan	<p>32. Revise the second paragraph of Section D.1 from:</p> <p>Levels of response and conditions leading to the responses are defined in Appendix 1 of NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference S). For Units 2 and 3 which consist of passive plant designs, levels of response are defined in NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors," Rev. 0, dated September 2007 (Reference P). NEI 07-01 is based on NEI 99-01, "Methodology for Development of Emergency Action Levels." (Reference Q)</p> <p>To Read:</p> <p>Levels of response and conditions leading to the responses for Unit 1 are defined in NEI 99-01 Rev. 5 Final, Methodology for Development of Emergency Action Levels, February 2008, (Reference Q). For Units 2 and 3 which consist of passive plant designs, levels of response are defined in NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors," Rev. 0, dated September 2007 (Reference P). NEI 07-01 is based on NEI 99-01.</p>
HAR-200	HAR	PT 05		D.02	Consistency with HNP Unit 1 Emergency Plan	<p>33. Revise Section D.2, Emergency Action Levels (EALs), first paragraph from:</p> <p>The basis for Harris Unit 1 EALs is Appendix 1 of NUREG- 0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference S). Annex 1 of the Harris Emergency Plan contains the specific EALs used in classification of emergencies for Harris Unit 1.</p> <p>To Read:</p> <p>The basis for Harris Unit 1 EALs is NEI 99-01 Rev. 5 Final, Methodology for Development of Emergency Action Levels, February 2008, (Reference Q). HAR Emergency Plan Plant Emergency Procedure (PEP-110), Emergency Classification and Protective Action Recommendations, along with EP-EAL, Emergency Action Levels contains the specific EALs used in classification of emergencies for Harris Unit 1.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-201	HAR	PT 05		D.02	NPD-NRC-2011-013, Voluntary EP Letter	<p>2. Section D.2, Emergency Action Levels (EALS), paragraph 2 revise from:</p> <p>The basis for Harris Units 2 and 3 which consist of passive plant designs, is NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors," Rev. 0 (Reference P). Annex 2 of the Harris Emergency Plan contains the specific EALS used in classification of emergencies for Harris Unit 2 and 3.</p> <p>To Read:</p> <p>The basis for Harris Units 2 and 3 which consist of passive plant designs, is NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors," Rev. 0 (Reference P). HAR Emergency Plan Plant Emergency Procedure (PEP-110), Emergency Classification and Protective Action Recommendations, provides recognition categories, the associated initiating condition matrices and the emergency levels.</p> <p>Changes to both Harris Unit 1 EALS and Units 2 and 3 EALS per the Emergency Plan and Plant Emergency Procedure PEP-110 are developed and approved consistent with the requirements of 10 CFR 50.54(q).</p>
HAR-202	HAR	PT 05		E.01	Consistency with HNP Unit 1 Emergency Plan	<p>44. Revise Section E.1, Notification of Progress Energy Personnel third paragraph, first sentence from:</p> <p>The Emergency Communicator – CR will also notify onsite/offsite personnel assigned to the Emergency Response Organization (ERO) using a computer-based automated duty roster system and a system of pagers.</p> <p>To Read:</p> <p>The Emergency Communicator – CR will also notify onsite/offsite personnel assigned to the Emergency Response Organization (ERO) web-based, computerized emergency response personnel call out computer.</p>
HAR-203	HAR	PT 05		E.02	Consistency with HNP Unit 1 Emergency Plan	<p>46. Revise Section E.2, Notification of State, Local, and Federal Response Personnel, second paragraph from:</p> <p>Once approved, the notification form is provided to the Emergency Communicator (EC – CR or EC – State/County in EOF) as a message text for transmittal offsite. The Emergency Communicator will use the electronic notification form to simultaneously notify the 24-hour manned State Warning Points, SEOC, and County Warning Points with the notification message. Additional information regarding notification is provided in the plant procedures.</p> <p>To Read:</p> <p>Once approved, the notification form is provided to the Emergency Communicator (EC – CR or EC – State/County in EOF) as a message text for transmittal offsite. The Emergency Communicator will use the electronic Emergency Notification Form (ENF) on WebEOC® or OSI soft/Plant Information System (OSI/PI), hard copy ENF form contained in PEP-310, or the Selective Signaling System phone to simultaneously notify the 24-hour-per-day, manned, State Warning Point, State EOC and County Warning Points with the notification message. Additional information regarding notification is provided in the plant procedures.</p>
HAR-208	HAR	PT 05		E.03.01.02	Consistency with HNP Unit 1 Emergency Plan	<p>28. Revise Section E.3.1.2.a from:</p> <p>A silent test should be performed every two weeks.</p> <p>To Read:</p> <p>A silent test should be performed every two weeks (Bi-weekly).</p>
HAR-209	HAR	PT 05		F.04	Consistency with HNP Unit 1 Emergency Plan	<p>50. Revise Section F.4, Communications with the Nuclear Regulatory Commission (NRC) and Other Federal Agencies, third paragraph from:</p> <p>The Emergency Response Data System (ERDS) is the primary means for transmission of plant parameter information from the Site to the NRC. The ERDS computer, when activated, will periodically transmit a predefined list of critical plant parameters over the dedicated ERDS ETS lines to the NRC Operations Center.</p> <p>To Read:</p> <p>The Emergency Response Data System (ERDS) is the primary means for transmission of plant parameter information from the Site to the NRC. ERDS is a direct, near real time web-based, Virtual Private Network (VPN) system data link between HNP and NRC that provides for the automated transmission of a limited set of plant data (e.g., core and coolant system conditions, conditions inside containment, radioactivity release rates, met tower data.) ERDS activation is required as soon as possible, but not later than one hour after declaring an emergency classification of Alert or higher.</p>
HAR-210	HAR	PT 05		F.05.c	Consistency with HNP Unit 1 Emergency Plan	<p>22. Revise Section F.5.c, Communications between HNP Emergency Response Facilities from:</p> <p>Sound-powered telephone system.</p> <p>To Read:</p> <p>Sound-powered telephone system. (All, except WPB Circuits 1-5) (NCR 272042)</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-211	HAR	PT 05		F.05.02	Consistency with HNP Unit 1 Emergency Plan	<p>23. Add new Section F.5.2 to read:</p> <p>F.5.2 WebEOC®</p> <p>WebEOC® is a web-enabled collaborative information management system that provides real-time information sharing to facilitate decision making.</p>
HAR-212	HAR	PT 05		F.07	Consistency with HNP Unit 1 Emergency Plan	<p>45. Revise Section F.7, Alerting Emergency Response Personnel from:</p> <p>As described in Section E, notification of onsite personnel will be completed through a combination of Public Address (PA) announcements, alarms, and proceduralized telephone calls. During and after normal working hours, a call out computer is available to notify the HNP Emergency Response Organization personnel and the NRC resident inspector of emergency declarations at the Site. The system provides instructions for activation of the onsite emergency facilities, the near site Emergency Operations Facility, and the Joint Information Center. Provisions are provided for remote activation of the system via telephone lines and for password protection from unauthorized use of the system.</p> <p>To Read:</p> <p>As described in Section E, notification of onsite personnel will be completed through a combination of Public Address (PA) announcements, alarms, and proceduralized calls. During and after normal working hours, a web-based, computerized emergency response personnel call out computer is available to notify the HNP Emergency Response Organization personnel and the NRC resident inspector of emergency declarations at the plant. The system provides instructions for activation of the onsite emergency facilities, the near site Emergency Operations Facility, and the Joint Information Center. Provisions are provided for backup, alternate activation and for password protection from unauthorized use of the system.</p>
HAR-142	HAR	PT 05		H	NPD-NRC-2010-085, H-0634	<p>1. Revise COLA Part 5, HNP Emergency Plan Section H, Emergency Facilities and Equipment first paragraph from:</p> <p>The purpose of emergency response facilities is to provide centralized locations for organized command and control of onsite and offsite activities performed by the Company during an emergency. The facilities provide a location for the Emergency Response Organization (ERO) to direct or perform their responsible activities and coordinate activities with other organizations. Unit-specific information for emergency facilities and equipment is described in Annex 1, Section 4 and Annex 2, Section 4.</p> <p>To Read:</p> <p>The purpose of emergency response facilities is to provide centralized locations for organized command and control of onsite and offsite activities performed by the Company during an emergency. The facilities provide a location for the Emergency Response Organization (ERO) to direct or perform their responsible activities and coordinate activities with other organizations. Unit-specific information for emergency facilities and equipment is described in Annex 1, Section 3 and Annex 2, Section 3.</p>
HAR-143	HAR	PT 05		H	NPD-NRC-2010-085, H-0635 item 1	<p>The following changes will be made in a future revision to Part 5, Emergency Plan of the HAR COLA:</p> <p>1. Section H, add the following sentence after the bullet "Joint Information Center (JIC)": An Alternate Emergency Response Facility is available in the event access to onsite emergency facilities is not possible due to a severe weather event, hostile action or any other reason.</p>
HAR-144	HAR	PT 05		H.01.04	Voluntary Response related to Emergency Operations Facility (EOF) Design per NPD-NRC-2010-093 (H-0654)	<p>HAR COLA Part 5, Emergency Plan, will be revised to insert new step a.2 into Section H.1.4, Emergency Operations Facility (EOF), and renumber the subsequent steps accordingly. The Emergency Operations Facility has been established consistent with NUREG-0696 guidelines.</p>
HAR-213	HAR	PT 05		H.01.04.a.08	Consistency with HNP Unit 1 Emergency Plan	<p>21. Revise Section H.1.4.a.8, Emergency Operations Facility (EOF) from:</p> <p>Alternate assembly area location for EOF staff is the 11th floor of Progress Energy Building in Raleigh, NC.</p> <p>To Read:</p> <p>Alternate assembly area location for EOF staff is the Progress Energy Customer Service Center, 160 Rush Street, Raleigh NC.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
						<p>Add new Section H.1.6, Alternate Emergency Response Facility as follows:</p> <p>H.1.6 ALTERNATE EMERGENCY RESPONSE FACILITY</p> <p>The Alternate Emergency Response Facility is located away from the plant site at the HE&EC. The Facility will serve as a location for ERO members to assemble and activate in the event that access to the plant's onsite and alternate "onsite" Emergency Response Facilities (TSC and OSC) location is not possible due to a severe weather event, hostile-action or any other reason. The Facility is intended to be staffed short term during the period when the onsite facilities are not accessible and will contain minimal equipment necessary for operation. The facility will have at a minimum:</p> <ul style="list-style-type: none"> • Communication links with the EOF, control room and security • Capability to notify offsite response organizations if the emergency operations facility staff is not performing the action • Capability for engineering and damage control teams to begin planning mitigating actions (e.g., general drawings and system information) <p>Specific setup criteria for the Alternate Emergency Response Facility are contained in the Emergency Plan Implementing Procedure "Activation and Operation of the Alternate Emergency Response Facility".</p>
HAR-145	HAR	PT 05		H.01.06	NPD-NRC-2010-085, H-0635 Item 2	
HAR-214	HAR	PT 05		H.02	Consistency with HNP Unit 1 Emergency Plan	<p>47. Change "pre-assigned" to "assigned" in the second sentence of Section H.2, Activation and Staffing.</p> <p>29. Change the first sentence in Section I.4 from:</p>
						<p>The technical basis for the dose projection program is located in NUREG-1741: RASCAL 3.0: Description of Models and Methods.</p> <p>To Read:</p> <p>The technical basis for the dose projection program is located in NUREG-1887 RASCAL 3.0.5: Description of Models and Methods.</p>
HAR-215	HAR	PT 05		I.04	Consistency with HNP Unit 1 Emergency Plan	
						<p>Revise Section J.1.2, Evacuation and Personnel Accountability To Read:</p> <p>J.1.2 EVACUATION AND PERSONNEL ACCOUNTABILITY</p> <p>All personnel within the Protected Area will be evacuated at a Site Area Emergency or General Emergency declaration, or earlier if deemed necessary by the Site Emergency Coordinator (SEC). Any personnel remaining in the Protected Area will be accounted for within 30 minutes of the declaration of a Site Area Emergency or higher and continuously thereafter during the emergency (accountability may be accomplished at any time prior to the declaration of a Site Area Emergency, if deemed appropriate). In the event of a security event, conditions may dictate initiation of protective measures other than personnel evacuation, assembly, and accountability. The SEC makes decisions regarding appropriate protective measures based on evaluation of site conditions, including input from Security. If based on SEC judgment, personnel evacuation, assembly and accountability may result in undue hazards to site personnel; the SEC may direct other protective measures in accordance with NRC Bulletin 2005-02 including:</p> <ul style="list-style-type: none"> • Evacuation of personnel from target buildings (including security personnel); • Site evacuation by opening security gates (while continuing to defend); • Dispersal of licensed operators; • Sheltering of personnel in structures away from potential site targets; • Arrangements for accounting for personnel after the attack. <p>Personnel within the Protected Area will be accounted for, and missing individual(s) will be identified by Security. Continuous accountability of personnel remaining inside the protected area will be maintained throughout the event. Plant emergency procedures describe the accountability methodology (see PEP- 350, Protective Actions). Search procedures will be implemented to locate unaccounted persons.</p> <p>Evacuation of onsite personnel can be accomplished, in accordance with plant emergency procedures for the site or the Exclusion Area (see PEP-350, Protective Actions). The following provides more detail regarding Site, Exclusion Area, and local evacuations.</p>
HAR-146	HAR	PT 05		J.01.02	NPD-NRC-2010-085, H-0636	

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-216	HAR	PT 05		J.02.01	Consistency with HNP Unit 1 Emergency Plan	<p>2. Revise Section J.2-1, Public Alerting, Warning, and Notification third and fourth paragraph from:</p> <p>Civil defense sirens mounted on 50 foot utility poles have been installed by Progress Energy at various locations within a 10 mile radius of the HNP (Figure Intro-3).</p> <p>Activation of the sirens for warning of the public will be accomplished from the county Warning Points or county Emergency Operations Centers, the Public Safety Communications Centers of Hammett, Lee and Chatham Counties; and the Raleigh Communications Center or the Emergency Operations Center for Wake County. Sirens can also be activated from the Harris Nuclear Plant. The sirens in each county are independently controlled by radio. The outdoor warning system provides the capability for providing an alerting signal within the 10 mile EPZ, within 15 minutes from the time the decision is made to notify the public of an emergency situation.</p> <p>To Read:</p> <p>Sirens mounted on 50-foot utility poles have been installed by Progress Energy at various locations within a 10-mile radius of the HNP.</p> <p>Activation of the sirens for warning of the public will be accomplished from the Wake County Emergency Operations Center or the Wake County Warning Points. The sirens can also be activated from the Harris Nuclear Plant or the Public Safety Communications Centers of Hammett, Lee and Chatham Counties. The outdoor warning system provides the capability for providing an alerting signal within the 10-mile EPZ, within 15 minutes from the time the decision is made to notify the public of an emergency situation.</p>
HAR-217	HAR	PT 05		P.01.b	Consistency with HNP Unit 1 Emergency Plan	<p>25. Add the following two bullets to Section P.1.b after the bullet for semiannually:</p> <ul style="list-style-type: none"> • Every 5 years - At least once per 1825 days. • Every six years or per cycle - At least once per 2190 days. <p>26. Revise the last sentence of the last paragraph in Section P.1.b from:</p>
HAR-218	HAR	PT 05		P.01.b	Consistency with HNP Unit 1 Emergency Plan	<p>This definition for periodic requirements applies to all intervals in the Emergency Plan and supporting procedures except for the biennial exercise, which is conducted every other calendar year.</p> <p>To Read:</p> <p>This definition for periodic requirements applies to all intervals in the emergency plan and plant emergency procedures except for the biennial exercise, which is conducted every other calendar year, and programs / requirements governed by the calendar year.</p>
HAR-219	HAR	PT 05		P.02	Consistency with HNP Unit 1 Emergency Plan	<p>48. Revise Section P.2, Emergency Plan and Plant Emergency Procedures Update and Changes, last sentence from:</p> <p>Changes to the emergency plan or PEPs shall be forwarded to the NRC within 30 days after approval.</p> <p>To Read:</p> <p>Changes to the emergency plan, EP-EAL or PEPs shall be forwarded to the NRC within 30 days after approval.</p>
HAR-220	HAR	PT 05		P.05	Consistency with HNP Unit 1 Emergency Plan	<p>27. Replace Nuclear Assessment Section in 2 places with Nuclear Oversight in Section P.5.</p>
HAR-221	HAR	PT 05	App 1	Appendix 1	Consistency with HNP Unit 1 Emergency Plan	<p>4. Revise Appendix 1, Glossary of Terms from:</p> <p>Emergency Action Levels (EALs) – Plant conditions used to determine the existence of an emergency and to classify its severity. The conditions include specific instrument readings, alarms, and observations that in combination indicate that an emergency initiating event has occurred and therefore an appropriate class of emergency should be declared. EALs cover a broad range of events such as radioactive releases to the environment, loss of all onsite and offsite power, security threats, fire, and strikes of operating employees.</p> <p>To Read:</p> <p>Emergency Action Levels (EALs) – Plant conditions used to determine the existence of an emergency and to classify its severity. The conditions include specific instrument readings, alarms, and observations that in combination indicate that an emergency initiating event has occurred and therefore an appropriate class of emergency should be declared. EALs cover a broad range of events such as radioactive releases to the environment, loss of all onsite and offsite power, security threats, and fire.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-222	HAR	PT 05	App 1	Appendix 1	Consistency with HNP Unit 1 Emergency Plan	49. Add the following definition to Appendix 1, Glossary of Terms: Emergency Response Data System (ERDS) – ERDS is a direct, near real time web-based, Virtual Private Network (VPN) system data link between HNP and NRC that provides for the automated transmission of a limited set of plant data (e.g., core and coolant system conditions, conditions inside containment, radioactivity release rates, met tower data.) ERDS activation is required as soon as possible, but not later than one hour after declaring an emergency classification of Alert or higher.
HAR-223	HAR	PT 05	App 1	Appendix 1	Consistency with HNP Unit 1 Emergency Plan	51. Delete the word "and" prior to "(OCL) in the last sentence of Appendix 1, Glossary of Terms, NRC Emergency Telecommunications System (ETS). 52. Revise Appendix 1, Glossary of Terms, Fission Product and Fission Product Barrier Status to read: Fission Product Barrier - A defense in depth design concept that precludes the release of highly radioactive fission products to the environment. This concept relies on multiple physical barriers any one of which, if maintained intact, precludes the release of significant amounts of radioactive fission products to the environment. The primary fission product barriers are: a. Reactor Fuel Clad (FC): The Fuel Clad barrier consists of the zircalloy or stainless steel fuel bundle tubes that contain the fuel pellets. b. Reactor Coolant System (RCS): The RCS Barrier includes the RCS primary side and its connections up to and including the pressurizer safety and relief valves, and other connections up to and including the primary isolation valves. c. Containment (CNMT): The Containment Barrier includes the containment building and connections up to and including the outermost containment isolation valves. This barrier also includes the main steam, feedwater, and blowdown line extensions outside the containment building up to and including the outermost secondary side isolation valve. Fission Product Barrier Status – a. Loss - the barrier no longer assures containment of radioactive materials. b. Potential Loss - integrity of the barrier is threatened and could be lost if conditions continue to degrade. c. Intact - The fission product barrier retains the ability to preclude the release of significant amounts of radioactive fission products to the environment.
HAR-224	HAR	PT 05	App 1	Appendix 1	Consistency with HNP Unit 1 Emergency Plan and HNP Unit 1 EAL SER Issued April 2010	11. Add Reference ## 's (2), where ## is the next sequential reference number to Appendix 2, References to read: ## CSP-NGGC-0007, Plant Digital Systems Cyber Security ## EMG-NGGC-0002 Offsite Dose Assessment (NCR 292138-16)
HAR-225	HAR	PT 05	App 2	Appendix 2	Consistency with HNP Unit 1 Emergency Plan	34. Revise Appendix 2 Reference Q from: NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 5, August 2007. To Read: NEI 99-01 Rev. 5 Final, Methodology for Development of Emergency Action Levels, February 2008, ADAMS Accession Number ML080450149
HAR-226	HAR	PT 05	App 2	Appendix 2	Consistency with HNP Unit 1 Emergency Plan	3. Revise Appendix 3, Letters of Agreement line 8 from: Charul Haugan, M.D. To Read: Raleigh Emergency Medicine Associates Medical Director – Rex Hospital
HAR-227	HAR	PT 05	App 3	Appendix 3	Consistency with HNP Unit 1 Emergency Plan	NPd-NRC-2010-085, H-0635 item 4
HAR-147	HAR	PT 05	App 4	Appendix 4	NPd-NRC-2010-085, H-0635 item 4	Add the following to Appendix 4, List of Emergency Plan Supportive Documents: Activation and Operation of the Alternate Emergency Response Facility – Section H
HAR-228	HAR	PT 05	App 4	Appendix 4	Consistency with HNP Unit 1 Emergency Plan	30. Add the following as the first document row to Appendix 4 Emergency Plan Implementing Procedures (PEPs): Document Type/ Identification Number Title Plan Section(s) EP-EAL Emergency Action Levels D.1, D.2, Annex 1 – Section A1-2

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary												
						53. Add the following two (2) PEPs to Appendix 4, Section Emergency Plan Implementing Procedures (PEPs) in sequential order: <table><thead><tr><th>Document Type/</th><th>Identification Number</th><th>Title Plan</th><th>Section(s)</th></tr></thead><tbody><tr><td>PEP-241</td><td>Technical Support Center (TSC) Emergency Ventilation System Operation</td><td></td><td>B.4.2, H.1.2</td></tr><tr><td>PEP-271</td><td>Emergency Operations Facility (EOF) Emergency Ventilation System Operation</td><td></td><td>B.4.4, H.1.4</td></tr></tbody></table>	Document Type/	Identification Number	Title Plan	Section(s)	PEP-241	Technical Support Center (TSC) Emergency Ventilation System Operation		B.4.2, H.1.2	PEP-271	Emergency Operations Facility (EOF) Emergency Ventilation System Operation		B.4.4, H.1.4
Document Type/	Identification Number	Title Plan	Section(s)															
PEP-241	Technical Support Center (TSC) Emergency Ventilation System Operation		B.4.2, H.1.2															
PEP-271	Emergency Operations Facility (EOF) Emergency Ventilation System Operation		B.4.4, H.1.4															
HAR-229	HAR	PT 05	App 4	Appendix 4	Consistency with HNP Unit 1 Emergency Plan													
HAR-230	HAR	PT 05	Annex 1	TOC	Consistency with HNP Unit 1 Emergency Plan and HNP Unit 1 EAL SER Issued 2010	35. Annex 1 Table of Contents, delete List of Figures and associated figures A1-1 and A1-2.												
						51. Revise Annex 1 Section A1-2, Emergency Action Levels (EALs) to read: Emergency Action Levels (EALs) are the plant-specific indications, conditions or instrument readings that are utilized to classify emergency conditions defined in the Section D, Emergency Classification System. NUREG-0654, Appendix 1, originally provided the basis for the HNP Emergency Action Level network. In 1992, the NRC endorsed NUMARC/NESP-007 "Methodology for Development of Emergency Action Levels" as an alternative to NUREG-0654 EAL guidance. NEI 99-01 (NUMARC/NESP-007) Revision 4 was subsequently issued for industry implementation. Enhancements over earlier revisions included: • Consolidating the system malfunction initiating conditions and example emergency action levels which address conditions that may be postulated to occur during plant shutdown conditions. • Initiating conditions and example emergency action levels that fully address conditions that may be postulated to occur at permanently Defueled Stations and Independent Spent Fuel Storage Installations (ISFSIs). • Simplifying the fission product barrier EAL threshold for a Site Area Emergency. Subsequently, Revision 5 of NEI 99-01 Final (February 2008) has been issued which incorporates resolutions to numerous implementation issues including the NRC EAL FAQs. The current HNP Emergency Plan EAL scheme is based on NEI 99-01 Revision 5.												
HAR-231	HAR	PT 05	Annex 1	A1-01.02	Consistency with HNP Unit 1 Emergency Plan and HNP Unit 1 EAL SER Issued 2010	Many of the EALs derived from the NEI 99-01 methodology are fission product barrier (FPBs) based. That is, the conditions												
						A. Reactor Fuel Clad (FC): The Fuel Clad barrier consists of the zircalloy or stainless steel fuel bundle tubes that contain the fuel pellets. B. Reactor Coolant System (RCS): The RCS Barrier includes the RCS primary side and its connections up to and including the pressurizer safety and relief valves, and other connections up to and including the primary isolation valves. C. Containment (CNMT): The Containment Barrier includes the containment building and connections up to and including the outermost containment isolation valves. This barrier also includes the main steam, feedwater, and blowdown line extensions outside the containment building up to and including the outermost secondary side isolation valve. In addition to looking at the status of fission product barriers, the Emergency Action Levels include the NEI 99-01 emergency action level events that are external to the plant, i.e., natural or man-made disaster phenomena, or are not directly attributable to the condition of the reactor, i.e., shutdown systems, fire, dose projections. These events based on Emergency Action Levels (EAL) are direct precursors to loss or jeopardy of the FPBs. Decision-makers responsible for implementation of PEP-110, Emergency Classification and Protective Action Recommendations, may use EP-EAL, Emergency Action Levels as a technical reference in support of EAL interpretation. The expectation is that emergency classifications are to be made as soon as conditions are present and recognizable for the classification, but within 15 minutes in all cases of conditions present.												
					Entry 31 continued from above Consistency with HNP Unit 1 Emergency Plan and HNP Unit 1 EAL SER Issued 2010	Where possible, the EALs have been made consistent with and utilize the conditions defined in the Emergency Operating Procedures (EOPs), Abnormal Operating Procedures (AOPs), Functional Restoration Procedures (FRPs), and Flow Path Procedures. Although some of the EALs are based on conditions defined in the EOPs, classification of emergencies using												
HAR-232	HAR	PT 05	Annex 1	A1-01.02														
						18. Revise Annex A1-3.1.a., Control Room from: Located in the Reactor Auxiliary Building as shown in Figure Intro-2. To Read: Located in the Reactor Auxiliary Building shown in Figure Intro-2.												
HSR-233	HAR	PT 05	Annex 1	A1-03.01.a	Consistency with HNP Unit 1 Emergency Plan													

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-234	HAR	PT 05	Annex 1	A1-03.01.a.02	Consistency with HNP Unit 1 Emergency Plan	<p>17. Revise Annex A1-3.1.a.2, Control Room from:</p> <p>Control Room habitability and radiation protection, as described in Section 6.4 of the FSAR.</p> <p>To Read:</p> <p>Control Room habitability and radiation protection are described in Section 6.4 of the FSAR.</p>
HAR-235	HAR	PT 05	Annex 1	A1-03.02.a	Consistency with HNP Unit 1 Emergency Plan	<p>19. Add the following two (2) steps to Annex 1, A1-3.2.a, Technical Support Center Characteristics:</p> <p>9. Designed taking into account good human factors engineering principles.</p> <p>10. Alternate location is the 305' Shift Manager, Shift Technical Advisor, and the Auxiliary Operator office area.</p>
HAR-236	HAR	PT 05	Annex 1	A1-03.03.a.04	Consistency with HNP Unit 1 Emergency Plan	<p>20. Revise Annex 1, A1-3.3.a.4 from:</p> <p>If the OSC becomes uninhabitable, an alternate location for OSC activities will be made available (e.g., Turbine Building 261' North and Technical Support Center).</p> <p>To Read:</p> <p>Alternate location is in the Fuel Handling Building, Section "K," near the Technical Support Center.</p>
HAR-237	HAR	PT05	Annex 1	A1-04.02	Consistency with HNP Unit 1 Emergency Plan	<p>1. Replace Annex A1-4.2, Emergency Response Facilities Information System (ERFIS) And Safety Parameter Display System (SPDS) with the following:</p> <p>ERFIS receives raw data from sensors in the field and processes the data to provide meaningful information for the user. The ERFIS system consists of the following major parts: Field input multiplexer, ERFIS Local Host computers (Primary and Backup), Plant Process Network, and ERFIS Display Terminals. ERFIS Display Terminals are located in the Main Control Room, Technical Support Center (TSC), Emergency Operations Facility (EOF), Operation Support Center (OSC), ERFIS Computer Room, and the Administrative and Service Buildings. The TSC, EOF and OSC Display Terminals can be configured to run from the Simulator during drills and exercises.</p> <p>The field input multiplexer obtains analog, digital, pulse and sequence-of-events inputs from field sensors. The ERFIS Local Host receives these inputs, converts the raw analog inputs to engineering units, and updates the Current Value Table (CVT) at rates of 0.1 to 30 seconds. Processing consists of alarming points that exceed predefined limits, archiving input data, and performing various calculations and reports on a periodic or on-demand basis.</p> <p>The ERFIS Local Host Computer contains a copy of the CVT that is updated over shared memory with the ERFIS Local Host. The ERFIS Display Terminals are connected to the Local Hosts via dedicated Ethernet LANs.</p> <p>There is a Primary and Backup ERFIS Local Host computer. When a failure occurs on a primary system, an automatic failover occurs to the backup system.</p> <p>The Safety Parameter Display System (SPDS) is a software subsystem of the ERFIS. The SPDS consists of a top-level display showing the status of Critical Safety Function Parameters at all times and a general display area for a summary display, graphic display of status trees, or plots of key parameters. A dedicated SPDS display is provided in the Main Control Room and ERFIS display Terminals in any location can display SPDS.</p> <p>The SPDS will access all available signals and will display information related to:</p> <ul style="list-style-type: none"> A. Subcriticality B. Core Cooling C. Heat Sink D. (Reactor Vessel) Integrity E. Containment F. (Reactor Coolant System) Inventory <p>Secondary displays will consist of graphic representations of the above critical safety functions and their status.</p> <p>Additional detail and design criteria for the SPDS are provided in Item I.D.2 of the FSAR TMI Appendix.</p>
HAR-085	HAR	PT05	Annex 2	A2-01.T / TA2-1	(SUPERSEDED by EP Voluntary Response per NPD-NRC-2011-013) NEI 07-01 Draft updated to NEI 07-01 Revision 0	Revise Annex 2 Table A2-1 EAL Matrix to match NEI 07-01 Revision 0 Initiating Conditions

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
HAR-238	HAR	PT 05	Annex 2	Table of Contents (TOC)	NPD-NRC-2011-013, Voluntary EP Letter	6. Delete Annex 2, Table of Contents, List of Tables and Tables numbered A2-1, A2-2, A2-3, A2-4 and A2-5.
						3. Annex 2, Section A2-2 Emergency Action Levels (EALs), from: Section D of the Harris Emergency Plan describes the classification of emergencies and four levels of classifications: Unusual Event, Alert, Site Area Emergency, and General Emergency. These classification levels are entered by meeting the criteria of Emergency Action Levels (EALs) provided in this section of the Units 2 and 3 Annex. Initiating conditions and additional EAL information specific to Units 2 and 3, including the EAL technical basis provided in NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors." (Reference P) To Read: Section D of the Harris Emergency Plan describes the classification of emergencies and four levels of classifications: Unusual Event, Alert, Site Area Emergency, and General Emergency. These classification levels are entered by meeting the criteria of Emergency Action Levels (EALs) provided in Plant Emergency Procedure PEP-110, Emergency Classification and Protective Action Recommendations. PEP-110 also contains the initiating conditions and additional EAL information specific to Units 2 and 3. The EAL technical basis is provided in NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors." (Reference P)
HAR-239	HAR	PT 05	Annex 2	A2-02	NPD-NRC-2011-013, Voluntary EP Letter	
						4. Annex 2, Section A2-2.1 EAL Matrices, last paragraph from: Within each category or sub-categories, specific Initiating Conditions (IC's) are identified. IC matrices for each of the five recognition categories are provided in Tables A2-1, A2-2, A2-3, A2-4, and A2-5. To Read: Within each category or sub-categories, specific Initiating Conditions (IC's) are identified. IC matrices for each of the five recognition categories are provided in PEP-110, Emergency Classification and Protective Action Recommendations.
HAR-240	HAR	PT 05	Annex 2	A2-02.01	NPD-NRC-2011-013, Voluntary EP Letter	
HAR-148	HAR	PT 05	Annex 2	A2-03.02	Voluntary Response related to Emergency Operations Facility (EOF) Design per NPD-NRC-2010-093 (H-0654)	HAR COLA Part 5, Emergency Plan, will be revised to insert new step a.2 into Annex 2 Section A2-3.2, Technical Support Center, and renumber the subsequent steps accordingly. The Technical Support Center has been established consistent with NUREG-0696 guidelines.
HAR-241	HAR	PT 05	Annex 2	Tables A2-01, A2-02, A2-03, A2-04, A2-05	NPD-NRC-2011-013, Voluntary EP Letter	5. Delete Tables A2-1, A2-2, A2-3, A2-4 and A2-5.
HAR-242	HAR	PT 05	ETE	All	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Update footer from Rev. 3 to Rev. 4
HAR-243	HAR	PT 05	ETE	Cover	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Updated Contact e-mail address and Report Date from February, 2009 to February, 2011.
HAR-244	HAR	PT 05	ETE	TOC	Editorial	Added Section 7.5, Discussion of ETE Results" to the TOC and moved the work "TIME" to the second line for the title of Section 8.
HAR-245	HAR	PT 05	ETE	T.01-01 / T.1-1	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise Table 1-1 to match Attachment 6 response per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91
HAR-246	HAR	PT 05	ETE	3 - Construction Section	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise the final sentence of the second paragraph in the Construction Section of Section 3, Demand Estimation as follows: As indicated in Table 8-1, 0.5% of the EPZ permanent resident population is transit dependent, after ridesharing. Applying this percentage to the 2016 permanent resident population estimate yields 466 transit dependent people, evacuating in 16 buses (assuming 30 passengers per bus).
HAR-247	HAR	PT 05	ETE	5 - Fundamental Considerations	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise the last paragraph on page 5-3 as follows: An employee who lives outside the EPZ will follow sequence (c) of Figure 5-1. A household within the EPZ that has one or more commuters at work, and will await their return before beginning the evacuation trip will follow the first sequence of Figure 5-1(a). A household within the EPZ that has no commuters at work will follow the second sequence of Figure 5-1(a), regardless of day of week or time of day. Note that event 5, "Leave to evacuate the area," is conditional either on event 2 or on event 4. For this study, we adopt the conservative posture that all activities will occur in sequence.
HAR-248	HAR	PT 05	ETE	5 - Calculation of Trip Generation Time Distribution	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise the last table on Page 5-10 per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91 change 12.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary				
HAR-249	HAR	PT 05	ETE	F.05-01 / F.5-1	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise Figure 5-1 to match Attachment 7 response per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91				
HAR-250	HAR	PT 05	ETE	T.06-03 / T.6-3	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise the footnote for Resident Households with No Commuters to Table 6-3 as follows: Households of EPZ residents who do not have commuters.				
HAR-251	HAR	PT 05	ETE	T.06-04 / T.6-4	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise Table 6-4 to match Attachment 3 response per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91				
HAR-252	HAR	PT 05	ETE	8.01	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise section 8.1 to match Attachment 1 response per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91				
HAR-253	HAR	PT 05	ETE	8.04	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise section 8.4, "Analysis of Bus Route Operations" to match Attachment 8 response per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91				
HAR-254	HAR	PT 05	ETE	8.04 Evacuation of Transit-Dependent Population	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise the second paragraph after Section 8.4, Evacuation of Transit-Dependent Population as follows: Those buses servicing the transit-dependent evacuees will first travel along their pick-up routes, then proceed out of the EPZ. Table 8-6 details the proposed bus routes to service the transit dependent people in the Harris EPZ, while Figure 8-2 maps the proposed bus pick-up routes. The number of buses assigned to each route is proportional to the total population of the sub-zones (see Table 3-1 in the ETE report) serviced by that route, as indicated in Table 8-6. The population of those sub-zones which are serviced by multiple routes is divided amongst the routes based on the estimated percentages shown in the third column of Table 8-6. The number of buses for each route is calculated by dividing the population of the sub-zones serviced by that route and the total population of the sub-zones serviced by all routes and then multiplying by the 12 bus runs required (see Section 8.1). For example, it is estimated that Route 2 services 15%, 10% and 10% of the population in sub-zones E, F and G, respectively. Based on the sub-zone populations provided in Table 3-1 of the ETE report, 7,835 people reside in the sub-zones serviced by this route (.15 x 32,879 + .10 x 13,534 + .10 x 15,497 = 7,835). As the final row of Table 8-6 indicates, the total population of the sub-zones serviced by all routes is 67,786. Therefore, the number of buses needed for Route 2 is estimated as: 7,835 + 67,786 x 12 = 2 (rounded up).				
HAR-255	HAR	PT 05	ETE	T.08-06 /T.8-6	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise Table 8-6 to match Attachment 4 response per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91				
HAR-256	HAR	PT 05	ETE	ES-12, T.08-07A /T.8-7A	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise Table 8-7A to match Attachment 5 response per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91. Table 8-7A also needed to be changed in Executive Summary on ES-12 for consistency.				
HAR-257	HAR	PT 05	ETE	T.08-07B /T.8-7B	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Revise Table 8-7B to match Attachment 5 response per NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91				
HAR-258	HAR	PT 05	ETE	Appendix F, F.07	NPD-NRC-2010-085 response to NRC HAR-RAI-LTR-075 RAI 13.03-91	Add the following sentences to the end of page F-7: This data was not used in this study. The findings of NUREG/CR-6953, Vol. 2 indicate that the family tends to evacuate together. Based on this information, it is assumed for this study that 100 percent of households with at least one commuter (68% of EPZ households according to Figure F-6) await the return of the commuter before beginning their evacuation trip.				
PT06										
No change										
PT07										
8029	STD	PT07		A / DEP 8.3-1	VEGP-VOL-CH08 response to STD-VOL-08.03-002 item 4 SNC Ltr ND-10-2005	4. COLA Part 7, Section A, STD and HAR Departures, will be revised to add the following departure: <table><tr><td><u>Departure Number</u></td><td><u>Description</u></td></tr><tr><td>STD DEP 8.3-1</td><td>Class 1E voltage regulating transformer current limiting features</td></tr></table>	<u>Departure Number</u>	<u>Description</u>	STD DEP 8.3-1	Class 1E voltage regulating transformer current limiting features
<u>Departure Number</u>	<u>Description</u>									
STD DEP 8.3-1	Class 1E voltage regulating transformer current limiting features									

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary				
						<p>5. COLA Part 7, Section A.1, Departures that Can Be Implemented Without Prior NRC Approval, will be revised to add the following departure:</p> <table><tr><th>Departure Number</th><th>Description</th></tr><tr><td>STD DEP 8.3-1</td><td>Class 1E voltage regulating transformer current limiting features</td></tr></table> <p><u>Departure Number:</u> STD DEP 8.3-1 <u>Affected DCD/FSAR Sections:</u> 8.3.2.2</p> <p><u>Summary of Departure:</u></p> <p>The DCD states that the Class 1E battery chargers and Class 1E voltage regulating transformers are designed to limit the input (ac) current to an acceptable value under faulted conditions on the output side. However, the AP1000 voltage regulating transformers do not have active components to limit current.</p> <p><u>Scope/Extent of Departure:</u></p> <p>This departure is identified in FSAR Subsection 8.3.2.2.</p> <p><u>Departure Justification:</u></p> <p>DCD Subsection 8.3.2.2 states that the Class 1E voltage regulating transformers have built-in circuit breakers at the input and output sides for protection and isolation. The circuit breakers are coordinated and periodically tested to verify their designed coordination and isolation function. They are qualified as isolation devices between Class 1E and non-Class 1E circuits in accordance with IEEE 384 and Regulatory Guide 1.75. Since the isolation and protection function is provided by the breakers, there is no need for the voltage regulating transformers to have current limiting capability. This departure does not adversely affect any safety-related system, nor does it conflict with applicable regulatory guidance.</p> <p><u>Departure Evaluation:</u></p> <p>This Tier 2 departure is associated with isolation between Class 1E loads and the non-Class 1E ac power source. The it does not:</p> <ol style="list-style-type: none">1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific DCD;2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific DCD;3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific DCD;4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific DCD;5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific DCD;6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD;7. Result in a design basis limit for a fission product barrier as described in the plant-specific DCD being exceeded or altered; or8. Result in a departure from a method of evaluation described in the plant-specific DCD used in establishing the design bases or in the safety analyses. <p>This Tier 2 departure does not affect resolution of an ex-vessel severe accident design feature identified in the plant-specific DCD.</p> <p>Therefore, this departure has no safety significance.</p> <p><u>NRC Approval Requirement:</u></p> <p>This departure does not require NRC approval pursuant to 10 CFR Part 52, Appendix D, Section VIII.B.5.</p>	Departure Number	Description	STD DEP 8.3-1	Class 1E voltage regulating transformer current limiting features
Departure Number	Description									
STD DEP 8.3-1	Class 1E voltage regulating transformer current limiting features									
8030	STD	PT07		A / DEP 8.3-1	VEGP-VOL-CH08 response to STD-VOL-08.03-002 item 5 SNC Ltr ND-10-2005	4. COLA Part 7, Departures, Exemptions, and Variances, Part B, will be revised to add the following exemption request (where # is the next appropriate exemption request number):				
8386	STD	PT07		B / EXM 3	VEGP-RAI-LTR-064 response to RAI 01.05-003 item 4 SNC Ltr ND-10-2257	#. Special Nuclear Material (SNM) Material Control and Accounting Program Description				

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
8387	STD	PT07		B / EXM 3	VEGP-RAI-LTR-064 response to RAI 01.05-003 item 5 SNC Ltr ND-10-2257	5. COLA Part 7, Departures, Exemptions, and Variances, Part B, will be revised to add the discussion and justification for Exemption related to the Special Nuclear Material (SNM) Material Control and Accounting (MC&A) Program. [See letter for full text of the exemption request.]
PT08						
No change						
PT09						
HAR-011	HAR	PT09			NPD-NRC-2010-020 and NPD-NRC-2009-187	Include Cybersecurity Plan with submittal
HAR-012	HAR	PT09			HAR-RAI-LTR-071 and HAR-RAI-LTR-071 Supplement	Include LOLA Plan with submittal
7276	STD	PT09		11B- MSDP	VEGP-RAI-LTR-054 response to RAI 19-96. (SNC Ltr ND-10-1020)	COLA Part 11, Loss of Large Areas of the Plant Due to Explosions or Fire, Mitigative Strategies Description (MSD), Section 1.0 will be revised per VEGP-RAI-LTR-054.
7277	STD	PT09		11B- MSDP	VEGP-RAI-LTR-054 response to RAI 19-98 (SNC Ltr ND-10-1020)	COLA Part 11, Loss of Large Areas of the Plant Due to Explosions or Fire, Mitigative Strategies Description (MSD), Section 3.0 will be revised per VEGP-RAI-LTR-054.
7278	STD	PT09		11B- MSDP	VEGP-RAI-LTR-054 response to RAI 19-99 (SNC Ltr ND-10-1020)	COLA Part 11, Loss of Large Areas of the Plant Due to Explosions or Fire, Mitigative Strategies Description (MSD), Section 7.17 will be revised per VEGP-RAI-LTR-054.
7280	STD	PT09		11B- MSDP	VEGP-RAI-LTR-054 response to RAI 19-101 (SNC Ltr ND-10-1020)	COLA Part 11, Loss of Large Areas of the Plant Due to Explosions or Fire, Mitigative Strategies Description (MSD), Section 7.21 will be revised per VEGP-RAI-LTR-054.
7281	STD	PT09		11B- MSDP	response to RAI 19-102 (SNC Ltr ND-10-1020)	COLA Part 11, Loss of Large Areas of the Plant Due to Explosions or Fire, Mitigative Strategies Description (MSD), Mitigative Strategies Description (MSD), Section 7.19 will be revised per VEGP-RAI-LTR-054.
7270	STD	PT09		11B- MSDP 06.01, 06.02	VEGP-RAI-LTR 052 S1 response to RAI 19-81 (S1) - SNC Ltr ND-10-1104	COLA Part 11, Loss of Large Areas of the Plant Due to Explosions or Fire, Mitigative Strategies Description (MSD), Sections 6.1 and 6.2 will be replaced. Refer to the final response letter for the complete COLA change.
HAR-150	HAR	PT09		09.02.02	Editorial	COLA Part 9, Section 9.2.2, delete this section since FSAR Figure 12.4-201 is no longer considered SUNSI. Remove Fire 12.4-201 from Part 9)(Also See HAR-100).
PT10						
8222	STD	PT10		LC#01	VEGP-VOL-CH01 IBR of PI & SG response item 2 SNC Ltr ND-10-2207	2. COLA Part 10, Proposed License Condition #1, ITAAC, introductory statements will be revised to read: There are several ITAAC identified in the COLA. Once incorporated into the COL, the regulations identify the requirements that must be met. The incorporation below includes the sensitive unclassified non-safeguards information (including proprietary information), and safeguards information referenced in the AP1000 DCD. Such DCD information is included in this combined license application in the same manner as it is included in the AP1000 DCD, i.e., references in the DCD are included as references in the FSAR, and material incorporated by reference into the DCD is incorporated by reference into the FSAR. Appropriate agreements are in place to provide access to the withheld sensitive unclassified non-safeguards information (including proprietary information), and safeguards information referenced in the AP1000 DCD.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7024	STD	PT10		LC#02, 03.06-1	Superseded by COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 6 COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 6 (SNC Ltr ND-10-0585)	essentially identifies a milestone for advance completion of the ITAAC discussed in 14.3.3); 3.6-1 Pipe Break Hazards Analysis 3.6.4.1 Prior to initial fuel load After a Combined License is issued, the following activity will be completed by the COL holder: A pipe rupture hazard analysis is part of the piping design. It is used to identify postulated break locations and layout changes, support design, whip restraint design, and jet shield design. The final design for these activities will be completed prior to fabrication and installation of the piping and connected components. The as-built reconciliation of the pipe break hazards analysis in accordance with the criteria outlined in subsections 3.6.1.3.2 and 3.6.2.5 will be completed prior to fuel load. To read: 3.6-1 As-Designed Pipe Rupture Hazards Analysis 3.6.4.1 Prior to installation of the piping and connected components in their final location After a Combined License is issued, the following activity will be completed by the COL holder. An as-designed pipe rupture hazard evaluation will be available for NRC review. The completed as-designed pipe rupture hazards evaluation will be in accordance with the criteria outlined in DCD Subsections 3.6.1.3.2 and 3.6.2.5. A pipe rupture hazards analysis is part of the piping design. The evaluation will be performed for high and moderate energy piping to confirm the protection of systems, structures, and components (SSCs), which are required to be functional during and following a design basis event. The locations of the postulated ruptures and essential targets will be established and required pipe whip restraints and jet shield designs will be included. The evaluation will address environmental and flooding effects of cracks in high and moderate energy piping. The as-designed pipe rupture hazards evaluation is prepared on a generic basis to address COL applications referencing the AP1 000 design.
7073	STD	PT10		LC#02, 03.06-1	COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 6 (SNC Ltr ND-10-0801)	6. COLA Part 10, Proposed License Conditions, item 2 -COL Item No. 3.6-1, will be revised from (Note that this revised item essentially identifies a milestone for advance completion of the ITAAC discussed in 14.3.3): 3.6-1 Pipe Break Hazards Analysis 3.6.4.1 Prior to initial fuel load After a Combined License is issued, the following activity will be completed by the COL holder: A pipe rupture hazard analysis is part of the piping design. It is used to identify postulated break locations and layout changes, support design, whip restraint design, and jet shield design. The final design for these activities will be completed prior to fabrication and installation of the piping and connected components. The as-built reconciliation of the pipe break hazards analysis in accordance with the criteria outlined in subsections 3.6.1.3.2 and 3.6.2.5 will be completed prior to fuel load. To read: 3.6-1 As-Designed Pipe Rupture Hazards Analysis 3.6.4.1 Prior to installation of the piping and connected components in their final location After a Combined License is issued, the following activity will be completed by the COL holder. An as-designed pipe rupture hazard evaluation will be available for NRC review. The completed as-designed pipe rupture hazards evaluation will be in accordance with the criteria outlined in DCD Subsections 3.6.1.3.2 and 3.6.2.5. Systems, structures, and components identified to be essential targets and appropriate mitigation features (Reference is DCD Table 3.6-3) will be confirmed as part of the evaluation, and updated information will be provided as appropriate. A pipe rupture hazards analysis is part of the piping design. The evaluation will be performed for high and moderate energy piping to confirm the protection of systems, structures, and components (SSCs), which are required to be functional during and following a design basis event. The locations of the postulated ruptures and essential targets will be established and required pipe whip restraints and jet shield designs will be included. The evaluation will address environmental and flooding effects of cracks in high and moderate energy piping. The as-designed pipe rupture hazards evaluation is prepared on a generic basis to address COL applications
7025 / 7074	STD	PT10		LC#02, 03.09-2	COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 7 (SNC Letter ND-10-0801) and COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 7 (SNC Ltr ND-10-0585)	7. COLA Part 10, Proposed License Conditions, item 2 -COL Item No. 3.9-2, will be deleted since this item is addressed by ITAAC in DCD Tier 1 Section 2 line items for the applicable systems.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7026 / 7075	STD	PT10		LC#02, 03.09-7	COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 8 (SNC Letter ND-10-0801) and COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 8 (SNC Ltr ND-10-0585)	<p>8. COLA Part 10, Proposed License Conditions, item 2 -COL Item No. 3.9-7, will be included as a new line item (Note that this new item essentially identifies a milestone for advance completion of the ITAAC discussed in 14.3.3):</p> <p>3.9-7 As-Designed Piping Analysis 3.9.8.7 Prior to installation of the piping and connected components in their final location</p> <p>After a Combined License is issued, the following activity will be completed by the COL holder:</p> <p>The as-designed piping analysis is provided for the piping lines chosen to demonstrate all aspects of the piping design. A design report referencing the as-designed piping calculation packages, including ASME Section III piping analysis, support evaluations and piping component fatigue analysis for Class 1 piping using the methods and criteria outlined in DCD Table 3.9-19 is made available for NRC review. The availability of the piping design information and design reports for the piping packages is identified to the NRC.</p>
5477/5863	STD	PT10		LC#02, 09.01-7	Superseded by LNP-377 RAI LTR 165 in response to RAI 09.01.02-001 item 1 Duplicate of QB Item #5477	<p>Revise Part 10, License Condition 2, COL Item No. 9.1-7, from:</p> <p>A spent fuel rack Metamic coupon monitoring program is to be implemented when the plant is placed into commercial operation. This program includes tests to monitor bubbling, blistering, cracking, or flaking; and a test to monitor for corrosion, such as weight loss measurements and or visual examination.</p> <p>To read:</p> <p>A spent fuel rack Metamic coupon monitoring program is to be implemented when the plant is placed into commercial operation. This program includes tests to monitor bubbling, blistering, cracking, or flaking; and a test to monitor for corrosion, such as weight loss measurements and or visual examination. The program will include testing to monitor changes in physical properties of the absorber material, including neutron attenuation and thickness measurements.</p>
LNP-377	STD	PT10		LC#02, 09.01-7	Conform to R-COLA	<p>Revise LC#2, 9.1-7, for metamic rack program to conform to R-COLA.</p> <p>COLA Part 10, Proposed License Conditions, item 2, COL Item No. 13.6-5 will be included as a new line item:</p>
LNP-378	STD	PT10		LC#02, 13.06-5	Conform to R-COLA	<p>13.6-5 Cyber Security Program 13.6.1 Prior to initial fuel load</p> <p>The combined License holder will develop and implement a cyber security program prior to initial fuel load.</p> <p>COLA Part 10, Proposed License Conditions, including IT AAC, proposed License Condition #2, item 14.4-2, Test Specifics and Procedures , will be revised from:</p> <p>NOTE --addressed by proposed License Condition Number 6.</p> <p>To read:</p>
HAR-154	HAR	PT10		LC#02, 14.04-02	Editorial	<p>NOTE --addressed by proposed License Condition #6.</p>
8020	STD	Pt 10		LC#02, 14.04-03	VEGP-VOL-CH14 response to item 1 SNC Ltr ND-10-1993	<p>1. COLA Part 10, Proposed License Conditions, including IT AAC, proposed License Condition #2, item 14.4-3, Conduct of Test Program, will be revised from:</p> <p>14.4-3 Conduct of Test Program 14.4.3 Prior to initiating test program</p> <p>A site-specific startup administration manual (procedure), which contains the administration procedures and requirements that govern the activities associated with the plant initial test program, as identified in FSAR Section 14.2, is provided prior to initiating the plant initial test program .</p> <p>To read:</p> <p>14.4-3 Conduct of Test Program 14.4.3</p> <p>NOTE - addressed by proposed License Conditions #3 and #6.</p>
8021	STD	Pt 10		LC#02, 14.04-04	VEGP-VOL-CH14 response to item 2 SNC Ltr ND-10-1993	<p>2. COLA Part 10, Proposed License Conditions, including IT MC, proposed License Condition #2, item 14.4-4, Review and Evaluation of Test Results, will be revised from :</p> <p>14.4-4 Review and Evaluation of Test Results 14.4.4 Prior to initial fuel load</p> <p>The Combined License holder is responsible for review and evaluation of individual test results as well as final review of overall test results and for review of selected milestones or hold points within the test phases. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible design organizations, and corrective actions and retests, as required, are performed.</p> <p>To read:</p> <p>14.4-4 Review and Evaluation of Test Results 14.4.4</p> <p>NOTE - addressed by proposed License Condition #9.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
8022	STD	Pt 10		LC#02, 14.04-06	VEGP-VOL-CH14 response to item 3 SNC Ltr ND-10-1993	3. COLA Part 10, Proposed License Conditions, including ITAAC, proposed License Condition #2, item 14.4-6, First-Plant-Only and Three-Plant-Only Tests, will be revised from: 14.4-6 First-Plant-Only and Three-Plant-Only Tests 14.4.6 Prior to preoperational testing The COL holder for the first plant and the first three plants will perform the tests listed in subsection 14.2.5. For subsequent plants, either tests listed in subsection 14.2.5 shall be performed, or the COL applicant shall provide a justification that the results of the first-plant-only tests or first three-plant tests are applicable to the subsequent plant. The Combined License holder(s) for the first AP 1000 plant (or first three plants) available for testing will perform the tests defined during preoperational and startup testing as identified in subsections 14.2.9 and 14.2.10. Combined License holders referencing the results of the tests will provide the report as necessary. The schedule for providing this information will be provided prior to preoperational testing. To read: 14.4-6 First-Plant-Only and Three-Plant-Only Tests 14.4.6 NOTE - addressed by proposed License Conditions #7 and #9.
7251 / Qb 3961	STD	PT10		LC#02, 15.0-1	Superseded by Qb 7765 COL-SER-OI-Ch15 response via ND-10-1018 - DCD Rev 18, Based on WEC letter DCP/NRC2461 dated 20090506	3. COLA Part 10, Proposed License Conditions, LC#2, will be revised to include a new line item for COL item 15.0-1 as follows: 15.0-1 Documentation of Plant Calorimetric 15.0.15.1 Prior to initial fuel load Uncertainty Methodology Confirm the plant operating instrumentation installed for feedwater flow measurement is a Caldon [Cameron] LEFM CheckPlus™ System.
7765	STD	PT10		LC#02, 15.0-1	SUPERSEDED by Qb 8126, COL-SER-OI-Ch15 S2 response to SER OI 15.00-001 item 3 SNC Ltr ND-10-1527	3. COLA Part 10, Proposed License Conditions, LC#2, will be revised to include a new line item for COL item 15.0-1 as follows: 15.0-1 Documentation of Plant Calorimetric 15.0.15.1 Prior to initial fuel load Uncertainty Methodology Confirm the plant operating instrumentation installed for feedwater flow measurement is a Caldon [Cameron] LEFM CheckPlus™ System. Additionally, confirm that administrative controls are in place to implement maintenance and contingency activities related to the system.
8126	STD	PT10		LC#02, 15.0-1	COL-SER-OI-CH15 S3 response to SER-OI-15.00-001 item 3 SNC Ltr ND-10-2091	3. COLA Part 10 (Rev. 3), Proposed License Conditions, LC#2, COL Holder Items, COL Item No. 15.0-1, will be revised to read: 15.0-1 Documentation of Plant Calorimetric 15.0.15.1 Uncertainty Methodology Note - addressed by proposed ITAAC Table 2.5.4-2, item 4.
HAR-013	HAR	PT10		LC#03	Superseded by Qb7303 Revise COLA Part 10 to incorporate changes indicated in LNP-RAI-LTR-082 Response L-0734 based on the VEGP LTR-049 Response.	COLA Part 10, Proposed License Condition, Operation Program Implementation will be revised to add the following new milestones: A.2 - Fitness for Duty (Security) A.3 - Fitness for Duty (FFD Program Personnel) C.6 - Fitness for Duty (Security) D.4 - Fitness for Duty (Security)
7599	STD	PT10		LC#03	COL-SER-OI-Ch01 response to OI 01.05-01 Supplement (SNC LTR ND-10-1305)	13. COLA Part 10, Proposed License Condition 3, "Operational Program Implementation," will be revised to add the following new milestone: D.5 – Emergency Planning (applicable portions)

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7303	STD	PT10		LC#03	RAI LTR 049 S1 response to RAI 13.06-035 Item 2 (SNC LTR ND-10-1230)	COLA Part 10, Proposed License Conditions (Including ITAAC), Section 3, 2nd paragraph will be revised to read: PROPOSED LICENSE CONDITION: The licensee shall implement the programs or portions of programs identified below on or before the associated milestones identified below. A. Construction Initiation – The licensee shall implement each operational program identified below prior to initiating construction of nuclear safety- or security-related structures, systems, or components. None identified. B. 18 Months Prior to Fuel Load – The licensee shall implement each operational program identified below at least 18 months prior to scheduled date of initial fuel load. B.1 – Reactor Operator Training C. Receipt of Materials – The licensee shall implement each operational program identified below prior to initial receipt of byproduct, source, or special nuclear materials onsite (excluding Exempt Quantities as described in 10 CFR 30.18). C.1 – Radiation Protection (applicable portions) C.2 – Fire Protection Program (applicable portions) C.3 – Non Licensed Plant Staff Training Program (applicable portions) C.4 – Emergency Planning (applicable portions) C.5 – Security Program (applicable portions) C.6 – Deleted D. Fuel Receipt – The licensee shall implement each operational program identified below prior to initial receipt of fuel onsite. D.1 – Fire Protection (applicable portions) D.2 – Radiation Protection (applicable portions) D.3 – Security Program (applicable portions) D.4 – Deleted E. Construction Testing – The licensee shall implement each operational program identified below prior to initial construction testing. E.1 – Initial Test Program – Construction Testing F. Preoperational Testing – The licensee shall implement each operational program identified below prior to initial preoperational testing. F.1 – Initial Test Program – Preoperational Testing G. Fuel Loading – The licensee shall implement each operational program identified below prior to initial fuel load. G.1 – Environmental Qualification G.2 – Pre-Service Testing G.3 – Process and Effluent Monitoring and Sampling G.4 – Radiation Protection (applicable portions) G.5 – Motor-Operated Valve Testing G.6 – Fire Protection G.7 – Deleted G.8 – Containment Leakage Rate Testing G.9 – Physical Security G.10 – Cyber Security
8019	STD	Pt 10		LC#03 C.4	VEGP RAI LTR 62 response to RAI 01.05-01 (SNC LTR ND-10-2002)	Revise COLA Part 10, proposed License Condition 3, Operational Program Implementation, item C, Receipt of Materials From: C.4 - Emergency Planning (applicable portions) To Read: C.4 - Deleted
8388	STD	PT10		LC#03 C.7	VEGP-RAI-LTR-064 response to RAI 01.05-003 item 6 SNC Ltr ND-10-2257	6. COLA Part 10, Proposed License Conditions, LC#3.C, Operational Program Implementation, Receipt of Materials, will be revised to include a new line item for implementation of an SNM material control and accounting program, as follows (where # is the next appropriate letter designation): C.# - SNM Material Control and Accounting Program

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7275	STD	PT10			VEGP-RAI-LTR-054 response to RAI 19-95 SNC Ltr ND-10-1020	<p>COLA Part 10, Proposed License Conditions (including ITAAC), VEGP Proposed License Condition 6, Operational Program Readiness, will be revised to read:</p> <p>6. OPERATIONAL PROGRAM READINESS:</p> <p>The NRC inspection of operational programs will be the subject of the following license condition in accordance with SECY-05-0197.</p> <p>PROPOSED LICENSE CONDITION:</p> <p>The licensee shall submit to the appropriate Director of the NRC, a schedule, no later than 12 months after issuance of the COL, that supports planning for and conduct of NRC inspections of operational programs listed in the operational program FSAR Table 13.4-201. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the operational programs in the FSAR table have been fully implemented or the plant has been placed in commercial service, whichever comes first. This schedule shall address:</p> <ul style="list-style-type: none"> a. the emergency planning implementation procedures to the NRC consistent with 10 CFR 50, Appendix E, Section. b. the implementation of site specific Severe Accident Management Guidance. c. the reactor vessel pressurized thermal shock evaluation at least 18 months prior to initial fuel load. d. the approved preoperational and startup test procedures in accordance with FSAR Subsection 14.2.3. e. the flow accelerated corrosion (FAC) program implementation, including the construction phase activities. f. full implementation of the operational and programmatic elements of responding to an event associated with a loss of large areas of the plant due to explosions or fire, prior to initial fuel load.
7067	STD	PT10		LC#06	COL-SER-OI-Ch09 response to OI 09-01-001 item 2 SNC Letter ND-10-0781	<p>2. COLA Part 10, Proposed License Conditions (including ITAAC), License Condition 6, Proposed License Condition for Operational Program Readiness, will be revised to add the following line item:</p> <ul style="list-style-type: none"> g. - the spent fuel rack Metamic coupon monitoring program implementation.
HAR-149	STD	Pt 10		LC#06	BLN-SER-OI-CH3 Supplement 2 item 1 response to SNC Letter ND-10-0187 Consistency with R-COLA	<p>Revise COL Application Part 10, License Conditions, proposed license condition 6, final sentence introduction to the list from:</p> <p>To read:</p> <p>This schedule shall also address:</p>
4095	STD	Pt 10		LC#06	Superseded by BLN-SER-OI-CH3 Supplement 5 response to SNC Letter ND-10-0703 BLN-SER-OI-CH3 Supplement 2 item 2 response to SNC Letter ND-10-0187	<p>(This change was superseded by ND-10-0703. ND-10-0703 retracted this change and LC#06 will remain as previously described. The following change was not made.) Revise COL Application Part 10, License Conditions, proposed license condition 6, to include an additional item of (where # is the next appropriate letter):</p> <ul style="list-style-type: none"> #. the equipment seismic qualification results availability.
8023	STD	Pt 10		LC#06	VEGP-VOL-CH14 response to item 4 SNC Ltr ND-10-1993	<p>4. COLA Part 10, Proposed License Conditions, including ITAAC, proposed License Condition #6, Operational Program Readiness, will be revised from:</p> <ul style="list-style-type: none"> d. the approved preoperational and startup test procedures in accordance with FSAR Subsection 14.2.3. <p>To read:</p> <ul style="list-style-type: none"> d. the approved preoperational and startup test procedures (including the site-specific startup administration manual (procedure) prior to initiating the plant initial test program) in accordance with FSAR Subsection 14.2.3.
7937	STD	Pt 10		LC#06	VEGP-VOL-CH03 Const Procedures response to STD-COL-03.08-006 item 3 SNC Ltr ND-10-1900	<p>3. COLA Part 10, Proposed License Conditions, will be revised to add a new standard item to proposed license condition 6 to read (where # is the next appropriate letter):</p> <ul style="list-style-type: none"> #. the implementation of construction and inspection procedures for concrete filled steel plate modules activities before and after concrete placement, use of construction mock-ups, and inspection of modules before and after concrete placement as discussed in DCD Subsection 3.8.4.8.

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
8127	STD	PT10		LC#06	COL-SER-OI-CH15 S3 response to SER- OI-15.00-001 item 4 SNC Ltr ND-10-2091	<p>4. COLA Part 10, Proposed License Conditions, LC#6, Operational Program Readiness, will be revised to include a new line item for availability of documentation of plant calorimetric uncertainty methodology as follows (where # is the next appropriate letter designation):</p> <p>#. the availability of documented instrumentation uncertainties to calculate a power calorimetric uncertainty, prior to initial fuel load.</p> <p>#. the availability of administrative controls to implement maintenance and contingency activities related to the power calorimetric uncertainty instrumentation, prior to initial fuel load.</p>
7300 / Qb 4141	HAR	PT10		LC#07	<p>Superseded by Qb 8024 VEGP VOL rev (SNC LTR ND-10- 1993) RAI LTR 058 response to RAI 14.02-001 (SNC LTR ND-10-1202)</p>	<p>Line item 7 will be revised from: 7. Not Used To read:</p> <p>7. First-Plant-Only and First-Three-Plant-Only Testing Certain design features of the AP1000 plant will be subjected to special tests to establish unique phenomenological performance parameters of the AP1000 design. Because of the standardization of the AP1000 design, these special tests (designated as first plant only tests and first three plant only tests) are not required on subsequent plants. These tests will be controlled through license conditions to ensure that relevant test results are reviewed, evaluated, and approved by the designated licensee management before proceeding with the next testing phase. Accordingly, the following license condition is proposed:</p> <p>First-Plant-Only and First-Three-Plant-Only Testing Following completion of the testing, the licensee completing the testing shall review and evaluate individual test results. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible organizations, and corrective actions and tests, as required, are performed. Additionally, the licensee completing the testing shall also provide written notification of completion of the testing to the Director of the Office of New Reactors.</p> <p>1. For testing completed during pre-critical testing, criticality testing, and during low-power testing, these reports may be in conjunction with the test completion reports required for the power ascension test phase as identified below.</p> <p>2. For tests completed during operation above 5% RTP, the reports shall be provided for each individual test within thirty (30) calendar days of the licensee confirmation of completion of the testing.</p> <p>Subsequent plant licensees crediting completion of testing by the first-plant or by the first-three-plants shall provide a report referencing the written notification of completion submitted by the plant(s) completing the testing to the Director of the Office of New Reactors.</p>
8024	STD	PT 10		LC#07	VEGP-VOL-CH14 response to item 5 SNC Ltr ND-10-1993	<p>5. COLA Part 10, Proposed License Conditions, including IT AAC, proposed License Condition #7, First-Plant-Only and First-Three-Plant-Only Testing, will be revised to read:</p> <p>7. First-Plant-Only and First-Three-Plant-Only Testing Certain design features of the AP1 000 plant will be subjected to special tests to establish unique phenomenological performance parameters of the AP1000 design. Because of the standardization of the AP1000 design, these special tests (designated as first-plant-only tests and first-three-plant-only tests) are not required on subsequent plants. Once these tests are completed by the first plant (or first three plants) and appropriate documentation identified, the subsequent plants need only reference the applicable documentation to show that the first plant (or first three plants) completed the required testing. Accordingly, the following license condition is proposed:</p> <p><u>First-Plant-Only and First-Three-Plant-Only Testing</u> A licensee shall provide written identification of the applicable references for documentation for the completion of the testing to the Director of the Office of New Reactors (or equivalent NRC management) within thirty (30) calendar days of the licensee confirmation of acceptable test results.</p> <p>Subsequent plant licensees crediting completion of testing by the first-plant or by the first-three plants shall provide a report referencing the applicable documentation identified by the first (or first three) plant(s) confirming the testing to the Director of the Office of New Reactors (or equivalent NRC management). This report shall be provided to NRC either prior to initiation of pre-operational testing, or within sixty (60) days of the identification of the documentation for the completion of the testing by the first plant (or third plant, as appropriate), whichever is later.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
Qb 4140	STD	PT10		LC#09	Superseded by Qb8025 VEGP VOL rev (SNC LTR ND-10-1993) RAI LTR 059 response to RAI 14.02-002 (SNC LTR ND-10-1203)	<p>COLA Part 10, Proposed License Conditions, including ITAAC, will be revised to include a new license condition. Line item 9 will be revised from:</p> <p>9. Not Used</p> <p>To read:</p> <p>9. Power Ascension Test Phase</p> <p>Certain milestones within the startup testing phase of the initial test program (i.e., pre-critical testing, criticality testing, and low power (<5% RTP) testing) are controlled through license conditions to ensure that relevant test results are reviewed, evaluated, and approved by the designated licensee management before proceeding with the power ascension test phase. Accordingly, the following license conditions are proposed:</p> <p><u>Pre-critical and Criticality Testing</u></p> <p>1. Following completion of pre-critical and criticality testing, the licensee shall review and evaluate individual test results. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible organizations, and corrective actions and retests, as required, are performed.</p> <p>2. The licensee shall provide written notification to the Director of the Office of New Reactors within fourteen (14) calendar days of the licensee of completion of the pre-critical and criticality testing.</p> <p><u>Low-Power (<5% RTP) Testing</u></p> <p>1. Following completion of low power (<5% RTP) testing, the licensee shall review and evaluate individual test results. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible organizations, and corrective actions and retests, as required, are performed.</p> <p>2. The licensee shall provide written notification to the Director of the Office of New Reactors within fourteen (14) calendar days of completion of the low power testing.</p>
8025	STD	Pt 10		LC#09	VEGP-VOL-CH14 response to item 6 SNC Ltr ND-10-1993	<p>6. COLA Part 10, Proposed License Conditions, including ITAAC, proposed License Condition #9, Power-Ascension Test Phase, will be revised to address the complete startup testing program, with additions for pre-operational testing, and for above 5% up to and including 100% RTP to read:</p> <p>9. STARTUP PROGRAM TEST RESULTS</p> <p>Certain milestones within the startup testing phase of the initial test program (i.e., pre-critical testing, criticality testing, and low-power (<5% RTP) testing) are controlled through license conditions to ensure that relevant test results are reviewed, evaluated, and approved by the designated licensee management before proceeding with the power ascension test phase. Accordingly, the following license conditions are proposed:</p> <p><u>Pre-operational Testing</u></p> <p>Following completion of pre-operational testing, the licensee shall review and evaluate individual test results. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible organizations, and corrective actions and retests, as required, are performed.</p> <p><u>Pre-critical and Criticality Testing</u></p> <p>1. Following completion of pre-critical and criticality testing, the licensee shall review and evaluate individual test results. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible organizations, and corrective actions and retests, as required, are performed.</p> <p>2. The licensee shall provide written notification to the Director of the Office of New Reactors (or equivalent NRC management) within fourteen (14) calendar days of completion of the pre-critical and criticality testing.</p> <p><u>Low-Power (<5% RTP) Testing</u></p> <p>1. Following completion of low-power testing (<5% RTP), the licensee shall review and evaluate individual test results. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible organizations, and corrective actions and retests, as required, are performed.</p> <p>2. The licensee shall provide written notification to the Director of the Office of New Reactors (or equivalent NRC management) within fourteen (14) calendar days of completion of the low-power testing.</p> <p><u>At-Power (5%-100% RTP) Testing</u></p> <p>1. Following completion of at-power testing (at or above 5% RTP up to and including testing at 100% RTP), the licensee shall review and evaluate individual test results. Test exceptions or results which do not meet acceptance criteria are identified to the affected and responsible organizations, and corrective actions and retests, as required, are performed.</p> <p>2. The licensee shall provide written notification to the Director of the Office of New Reactors (or equivalent NRC management) within fourteen (14) calendar days of completion of the at-power testing.</p>
7027	STD	PT10		LC#AppB Piping1	Superseded by COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 9 COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 9 (SNC Ltr ND-10-0585)	<p>9. Part 10, Appendix B, Inspections, Tests, Analyses and Acceptance Criteria, add the following after the last site-specific ITAAC (where # is the next sequential number):</p> <p>Pipe Rupture Hazard Analysis ITAAC The ITAAC for Pipe Rupture Hazard Analysis are included in attached Table 3.8-#.</p> <p>Piping Design ITAAC</p> <p>The ITAAC for Piping Design are included in attached Table 3.8-#.</p>

Attachment 1 - HAR COLA Revision 3 Roadmap of Changes

Change ID#	COLA	COLA Part	Chapter	Section	Basis for Change	Change Summary
7076	STD	PT10		LC#AppB B2 piping	COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 9 SNC Letter ND-10-0801	9. Part 10, Appendix B, Inspections, Tests, Analyses and Acceptance Criteria, add the following after the last site-specific ITAAC (where # is the next sequential number): Pipe Rupture Hazard Analysis ITAAC The ITAAC for Pipe Rupture Hazard Analysis are included in attached Table 3.8-#. Piping Design ITAAC The ITAAC for Piping Design are included in attached Table 3.8-#.
7028	STD	PT10		LC#AppB Piping2 / T3.8-#	Superseded by COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 10 COL-SER-OI-Ch03 S4 response to OI 03.06-001 item 10 (SNC Ltr ND-10-0585)	10. Part 10, Appendix B, Inspections, Tests, Analyses and Acceptance Criteria, add Tables 3.8-# Pipe Rupture Hazards Analysis (Sheet 1 of 1) and 3.8-# Piping Design (Sheet 1 of 1) after the last site-specific ITAAC Table, as described in the referenced letter.
7077	STD	PT10		LC#AppB Piping2 / T3.8-#	COL-SER-OI-Ch03 S6 response to OI 03.06-001 item 10 (SNC Ltr ND-10-0801)	10. Part 10, Appendix B, Inspections, Tests, Analyses and Acceptance Criteria, add Tables 3.8-# Pipe Rupture Hazards Analysis (Sheet 1 of 1) and 3.8-# Piping Design (Sheet 1 of 1) after the last site-specific ITAAC Table, as described in the referenced letter.
8128	STD	PT10		LC#AppB PS ITAAC 2.5.4	COL-SER-OI-CH15 S3 response to SER-OI-15.00-001 item 5 SNC Ltr ND-10-2091	5. COLA Part 10, Appendix B, will be revised to include a new Plant-Specific ITAAC line item for COL item 15.0-1 as follows: Add the following information to the information provided in the referenced DCD Tier 1 Section 2.5.4, as a new item 4 under the Design Description section: 4. The plant operating instrumentation installed for feedwater flow measurement is one that has been specifically approved by the NRC; the power calorimetric uncertainty calculation includes uncertainties for the associated instrumentation based on an NRC approved methodology, and the calculated calorimetric values are bounded by the uncertainty value assumed for the initial reactor power in the safety analysis.
8129	STD	PT10		LC#AppB PS ITAAC 2.5.4, T2.5.4-2	COL-SER-OI-CH15 S3 response to SER-OI-15.00-001 item 6 SNC Ltr ND-10-2091	6. COLA Part 10, Appendix B, will be revised to include a new Plant-Specific ITAAC line item for COL item 15.0-1 as follows: Add the following information to the information provided in the referenced DCD Tier 1 Section 2.5.4, as a new, final line item in Table 2.5.4-2: Refer to the final response letter posted in eB for the complete change.
LNP-333 also Qb 7014	HAR	PT10		Appendix B 02.06.09.T/T2.6.9-2	NPD-NRC-2010-031, response L-0746	Revise COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Inspections, Tests, Analyses, and Acceptance Criteria, Table 2.6.9-2, as described in NPD-NRC-2010-031
7296	STD	PT10		Appendix B 02.06.09.T/T2.6.9-2	RAI LTR 047 S2 response to RAI 14.03.12-001 (SNC LTR ND-10-0886 which superseded ND 10-0489)	Revise COLA Part 10, Proposed License Conditions (Including ITAAC), Appendix B, Inspections, Tests, Analyses, and Acceptance Criteria, Table 2.6.9-2, as described in SNC LTR ND-10-0886
PT11						
HAR-087	HAR	PT11			Conformance between HAR and LNP projects	Add the following document to Part 11: QAPD
LNP-334	HAR	PT11		Enclosure 3	NPD-NRC-2009-141	Add the following document, public version - redacted, to Part 11: HAR Units 2 and 3, Loss of Large Areas of the Plant due to Explosions or Fire; Mitigative Strategies Description and Plans; [Required by 10 CFR 52.80(d)]
HAR-014	HAR	PT11			NPD-NRC-2009-187 Item 6 Response	Add the following document, public version - redacted, to Part 11: Cybersecurity Plan Change COLA Part 11, Enclosures, by including the new Cyber Security Plan (as provided in Attachment B). Note: The actual Plan is requested to be withheld from disclosure in accordance with 10 CFR 2.390(d), because it contains security-related information. Consequently, the version of the HAR Units 2 and 3 Cyber Security Plan in Part 11 is redacted, and the full document is provided in COLA Part 9, Withheld Information.